**BOREHOLE LOGS** 

**BH1** THROUGH **BH21** 

_				IDeate of M	000	`					In . 1 000	T 6:
				Project No.: Client/Project			a Pofin	ina			Boring SB9 Well ID	Sheet
	Da			Name of Ge	o. (	ig.: L	aura R	ecte	enwald		Location Map:	1
	F			3		<u>-</u>			. 2.1.0		·	
	TOERC ASSOCIATE	DEK s, inc.		Name of Dri	ller:	Jac	kie Rai	nes	no. 54	661	See original.	
Location: F	remier Rd. Lo	ongview, TX	(				Date	e/Tii	me (sta	rt): 4	/10/14 11:55	
			·····				Date	e/Tii	me (fini	sh): 4	/10/14 14:00	
Drilling Co.	: Geoprobe 7	720 DT	rillin a				Dep	th (I	bore): 2 o Wateı	0 (\	Well): 20 ) (Static)	
Sampling Equ	uip.: Precision  quip: Macroc	ore	ming						Interval		Top of Casing: NA	
Inspector:	- quipi mao. o o	0.0					00.0	, 0			X: Y: Elev:	
					Ħ	0	ے ا		Ф	ite e		
Well				OVA	Blow Cnt	% Rec	mpl Ru Depth	-	Grab Sample	Composite Sample	Description	
Const				(ppm)	Bo	%	Smg	1	Sa	Sa	'	
	0-0.5					H	•			0		
-	0.5-1.5	aroo	cl	1.5-1.7		1 1		-			topsoil	
<u> </u>	1.5-2.5	gr sa		2.2		1 1	1	-			red orange	
-	1.5-2.5	gr sa	si	2.2		1 1		-			brown wet organic matter	
<u> </u>	2545		o:	2527		%	2	-			gray with yellow reduced	
F -	2.5-4.5	sa	Si	2.5-2.7	<u> </u>	1		-			gray with yellow reduced	
<b>-</b>				1.6	$\vdash$	1	3	$\dashv$			ļ	
<b>-</b>				1	<u> </u>	{		4				
<b>L</b> –	455			4547	<del>                                     </del>	H	4	4			many achieved as a startainer of the Control of	
<b>-</b>	4.5-5	sa	Si	4.5-4.7	<del> </del>	1 I		4			gray, solvent or petroleum odor observed	
<b>⊢</b> –	F 7	ļ		30.9	<u> </u>	1 I	5	4			A-Grab: 4-4.5	
ļ -	5-7			5.5-5.7		4 1		-			A-Comp: 1-5	
		gr si	sa	2.8		%	6	_			wet	
<b>-</b> -								_				
	7-11					4	7	_				
<u> </u>		sa	cl	7.5-7.7		4		_			gray with red very stiff	
				18.7		Ш	8					
L _											B-Grab: 7.5-8	
<u> </u>							9				B-Comp: 6-10	
				9.5-9.7			3					
				1.8		%	10					
				10.5-10.7		0	10					
	11-11.5	gr si	sa	4.7			11				yellow and gray loose	
	11.5-14											
		si	sa				12				yellow and gray in dense	
				12.5-12.7			12					
_				2.0		1 1	40					
						1 1	13					
<b>T</b>	14-15	si	cl			, ,		٦			dark gray / yellow Hard	
						%	14	٦				
<b>T</b>	15-17	si	cl			1 1		٦			dark gray very stiff	
		İ		15.5-15.7		1	15	٦				
<b>T</b>		İ		0.8		1		٦				
				†	t	Н	16	$\neg$				
<b>†</b> -	17-20	sa	si	1	t	1		-			very dense dark gray	
F -				17.5-17.7	t	1	17	$\neg$				
t -				3.2		1		-				
<b>–</b>				1	t	%	18	$\dashv$			C-Grab: 19.5-20	
<b>-</b>		<u> </u>		19.5-19.7	H	1		+			C-Comp: 16-20	
<b></b>		<del> </del>		1.0	$\vdash$	1	19	$\dashv$			0 00110. 10 20	
<b>-</b>		<del> </del>		1.0		1 [		-				
H -				+	$\vdash$	H	20	$\dashv$				
<b>-</b>	-	<del>                                     </del>		1	-	1 I		-				
<b>–</b> –		-		+	1	1 I	21	$\dashv$				
-				1	$\vdash$	1		4			ļ	
<b>-</b>		-		+	-	1	22	4				
F -				1	<del>                                     </del>	1 I		4				
<b>-</b>		-		+	-	1	23	4				
F -		-		+	-	1		4				
<u> </u>	-			1	-	H	24	_				
<u> </u>				<del>                                     </del>	<u> </u>	Į I		4				

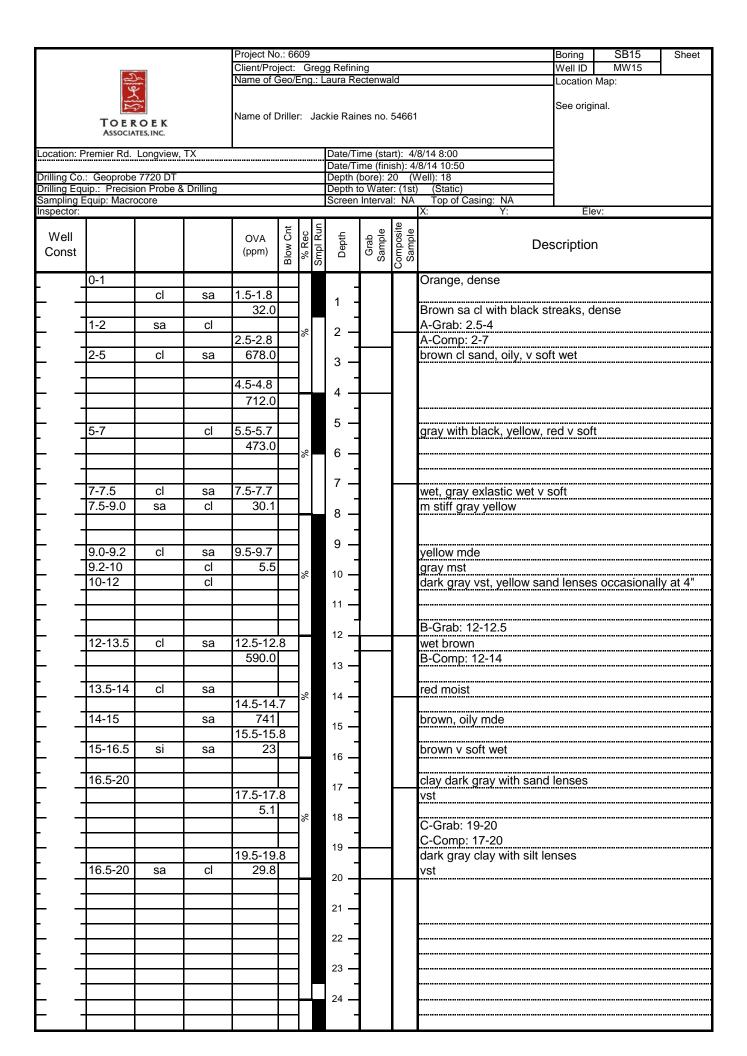
				Project No.:	6609	)						Boring	SB10	Sheet
		2		Client/Project	t: C	reg						Well ID		1
	5	F		Name of Ge	o/En	g.: L	au	ra Rect	enwald			Location	Map:	
	TOE Associa	ROEK ATES, INC.		Name of Dril	ler:	Jac	kie	Raines	s no. 540	661		See orig	inal.	
Location: P	remier Rd. Lo	ongview, TX						Date/T	ime (sta	rt): 4/	10/14 9:30	1		
								Date/T	ime (fini	sh): 4/	(10/14 11:15	]		
Drilling Co.	: Precision Proip: Geoprobe	obe & Drilling					_	Depth :	(bore): 2 to Wate		Vell): 20 (Static)	-		
Sampling E	quip: Macroco	ore							Interva	l:	Top of Casing:	<u>L</u>		
Inspector:		,				_	_	_	1		X: Y:	El	ev:	
Well				OVA	艿	% Rec	Ę	ج	c e	Composite Sample				
Const				(ppm)	Blow Cnt	, Re	힏	Depth	Grab Sample	odu dmr	Des	scriptio	n	
COHSI				(PP111)	ĕ	%	Sr		J Š	So S				
	0.05	sa	si								top soil tan			
_	0.5-0.7			1.5-1.7				4	1		orange and red fill well o	ompact	ed	
		gr 4	sa	2.4				1 -	1					
_								2 -	1					
				2.5-2.7		%		_						
				1.6				3 —						
						]		J —						
Ė -				4.5-4.7		Ш	_	4 —						
				1.3				4 —			Plant	road ba	ase	
Ľ -	top of scre	en at 5'		5.5-5.7		] ]		5 —						
				0.7				5 _						
						%		6 —						
						6		0 –						
				7.5-7.7				7 –						
L _	7.5-7.6			1.2				· -						
L	7.6-10	sa	si					8 —			organic matter			
											tan v dense			
				9.5-9.7				9 —			Comp A 6-9.5			
				624.7				9 _			A grab 9.0 - 9.5			
	10-14	sa	sl	10.5-10.7		%		10 —			red yellow white with gra	ıvel		
				23.8		6		10 _			wet at 10-11, v stiff			
								11 —			loose with gravel			
L _														
				12.5-12.7				12 —						
L _				33.3										
<u> </u>								13 —						
L _								-						
	14-15	sa	cl			%		14 —			with gravel, yellow and g	ıray		
				14.5-14.7		Ŭ		-			Comp B 14-16			
	15-17.5	gr sl	sa	25.5				15 —			tan, wet, M dense			
<u> </u>				15.5-15.7		Į Į		-						
L -				335.5		Ц		16 —			B grab 15.5 -16.0			
<u> </u>						ļ ļ								
L -		<u> </u>		1		. I		17 —						
<u> </u>	7.5-18	si	cl	17.5-17.7		4 I		-			dark brown v stiff			
<b>⊢</b> –	18-20	si	sa	21.2		%		18 —	I		yellowish tan, wet M der	se		
<b>-</b> -				1				-	I					
<b>⊢</b> –				1.0 - : -		1 1		19 —	I		Comp C 16-20			
<b>-</b> -				19.5-19.7		ļ		-		l	C grab 19.0 - 19.5			
<b>⊢</b> –				56.9		Ц		20 —		<u> </u>				
<b>├</b> -						ļ		-	Į					
<b>⊢</b> –				1		4 I		21 —	I					
<u> </u>						Į Į		-	l					
L -				1		4 I		22 —	I					
L -				1		4 I		-	I					
<b>⊢</b> –						Į Į		23 —	Į					
<u> </u>						<b>.</b>		-	l					
L -				1		Ц		24 —	I					
<u> </u>						4 I		-	l					

				Project No.:	6609	9						Boring	SB11	Sheet
	-	ī		Client/Project								Well ID		
				Name of Ge	o/En	g.:	Lau	ra Rect	enwald			Location	Мар:	
	TOERO Associates	DEK s, inc.		Name of Dril	ler:	Ja	ackie	Raines	s no. 54	661		See origi	nal.	
Location: F	Premier Rd. Lo	ngview, TX		•				Date/T	ime (sta	ırt): 4/	10/14 14:50			
											/10/14 16:10			
Drilling Co	.: Precision Pro uip.: Geoprobe	obe & Drilling						Depth	(bore): 2	20 (V	Vell): 20 ) (Static)	_		
Sampling I	Equip: Macroco	re							n Interva		Top of Casing:	-		
Inspector:				_							X: Y:	Ele	ev:	
Well Const				OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Grab Sample	Composite Sample	De	scriptio	า	
	0.05	si sa					Т				top soil tan			
<u> </u>	0.5-2.5	cl	sa			1		, -	1		orange red tan M dense			
				1.5-1.7		1		1 -	1					
<u> </u>				0.6		1.			1					
				2.5-2.7		%		2 -	1					
<u> </u>	2.5-5	sa	si	0.3		1			1		red, tan M dense			
			Ţ.			1		3 –	1					
<b>.</b>						1		-	1		red tan soft very moist			
<del>-</del> -	+			4.5-4.7		t	┢	4 –	1	1				
<b>├</b>	5-7	si	sa	0.7		1		-		1				
<b>-</b> -	10 /	- 31	34	5.5-5.7		1		5 -	1					
<b>├</b>	top of scre	en at 5'		1.1		1		-	1		reddish to yellow M soft	very mo	iet	
<b>-</b>	top or sore	l		1.1		%		6 –	1	-	A grab 5.5 - 6.0	very mo		
┝	7-10	si	sa			1		-	1		7 g ab 0.0 0.0			
├ -	7 10	- 31	34	75-7.7		1		7 –	1		A comp 5-10			
<u> </u>				0.3		1		-	1	-	A comp 5-10			
⊢ -	1			0.0		╁	╆	8 –		-	yellow soft			
<u> </u>	<u> </u>					-		-	1		yellow soft			
⊢ -	_			0.5.0.7		4		9 -	4					
┡ .	40.44.5	_:		9.5-9.7		4		-	-					
⊢ -	10-14.5	Sİ	sa	0.4		%	2	10 —		-				
┡ .	1			10.5-10.7		4		-	-					
<u></u>	1			1.2		4		11 —	-		B grab 10.50 - 11.0			
<u>.</u>	1					4		-	4		B comp 10-15			
<u> </u>				10 = 10 =		L	4	12 —	4		B comp 10-15			
Ļ.				12.5-12.7		4		-	4					
<u> </u>				0.6		4		13 —	4					
<u> </u>						4					very wet, very soft yellov	w and re	d	
<u> </u>						%	2	14 —						
<u> </u>	14.5-16.5	cl	sa	14.5-14.7		ľ		-	1					
<u> </u>				0.1		1		15 —	4					
<u> </u>	1			15.5-15.7		1		-	1		very moist M dense			
<u> </u>	<u> </u>			0.7		L		16 —	1					
<b>L</b> .	16.5-20	si	sa	<u> </u>		1			4					
L -				7.5-17.5		1		17 —	1					
<b>L</b> .				1.0		1			1		C comp 15 - 20			
L _						%		18 —	1					
<b>L</b> .						֓֞֟֝֟ <u>֟</u>			1					
L _						1		19 —						
L .				19.5-19.7		1					C grab 19.0 - 19.5			
L _				1.3		L		20 —		<u> </u>				
L						ſ						<b></b>		·
L '						]		21 —	1					
L -						]		-1	1					
Ĺ '						]		22 —				<del></del>		
						1								
Γ						1		22	1					
$\Gamma$ -						1		23 —	1					
Γ						1		24						
	1					T		24 —	1					
	1		i	1		1		-	1	1	<b>}</b>			

				Project No.:								Boring	SB12	Sheet
		1		Client/Project	ct: C	Gre	egg F	Refining				Well ID		
	3			Name of Ge	o/En	ıg.:	Lau	ıra Rect	enwald			Location	Мар:	
	ا گر ا													
												See orig	inal.	
	TOERO	FK		Name of Dril	ller:	Ja	ackie	Raines	s no. 540	661				
	ASSOCIATES	S, INC.												
Location: F	Premier Rd. Lo	ngview, TX									9/14 11:45			
											/9/14 1340			
Drilling Co	.: Precision Pro	obe & Drilling						Depth	(bore): 2	20 (V	Vell): 20	_		
Drilling Equ	uip.: Geoprobe Equip: Macroco	7720DT							to Wate			4		
Inspector:	=quip. iviacroco	ore						Screen	merva		Top of Casing: X: Y:	l F	lev:	
mapector.		I	I		T	Т	T						icv.	
Well				0)//	Blow Cnt	ي	Smpl Run	ے	o e	Composite Sample				
				OVA		å	ᆲ	Depth	Grab Sample	od m	De	scriptio	n	
Const				(ppm)	읎	%	, E		Sa	Sa		•		
	ļ				ᆮ	+	٠,							
L .	0-0.3	sa	si	1.5-1.7				_	l		top soil brown with organ		er	
	0.3-2	gr cl	sa	2.2				4			orange, red M dense NC	odor (		
	2-4.5	gr sa	cl		İ	1		1 -			orange, gray, yellow, red	l verv si	iff	
Ε .		J. 54	<u> </u>	2.5-2.7	H	1		1 -	1		, g.a., jonow, roc	J. y J	•	
H -	+				$\vdash$	%	?	2 -	ł		Λ 20mp 2 4			
<u> </u>	ļ			1.5	<u> </u>	1	1				A comp 2-4			
L _					L			3 –			A grab			
I						1	1	5 _			No odor noted in any sa	mple		
Γ.				4.5-4.7		1	1	l . •	1		1	•		
<b>⊢</b> −	1			9.0	H	t	┢	4 –	1	ł	R arab			
	1.5.0				-	4		-			B grab orange gray yellow red v			
	4.5-9	gr cl	si	5.5-5.7				5 -			orange gray yellow red v	ery der	ise	
				7.1							decreasing graver with d	lepth, ve	ery dense	
-						Ι.		_			B comp 4-6			
						-%	7	6 –			B comp 4-6 6-9 NO ODOR			
				7.5-7.7	<b>-</b>	-		-	-		0 3 140 0001			
						-		7 –						
				1.4		_		_						
								0						
					İ			8 –		1	yellow, orange, gray, vei	rv dense	<del>j</del>	
	9-10.3	sa	si		t	1		-			, o, o.ago, g.a.,,	.,		
	9-10.5	Sa	31	0.5.0.7	ł	-		9 —						
				9.5-9.7		4		_						
	top of scre	en		1.0		- %	5	10 —						
	10.3-11.3	si	sa	10.5-10.7		0,		10			tan, wet loose			
-				0.8		1		-						
<b>—</b> –	11.3-12.5	si	cl	0.0		1		11 —	-		with fe gravel and silt lar	minaa		
	11.3-12.3	51	CI		-	4		-			with te graver and sitt far	IIIIIae		
						┖		12 —						
	12.5-13.5	si	sa	12.5-12.7							wet M dense			
-				1.0										
	13.5-15	sa	cl			1		13 —			dark gray and yellow v s	tiff		
-	10.0-10	3a	U	+	┢	1		-	ł		aa. K gray and yonow v 3			
<u> </u>	<del>                                     </del>			1	1	%	2	14 —	ł					
L .	1			14.5-14.7	<u> </u>	1					14-15 NO ODOR			
 	15-17	si	SW	0.8	L			15			<u> </u>			
				15.5-15.7		1		15 —			dark gray v moist m den	se		
Γ .	1			1.4	-	1		-	1					
<b>⊢</b> -	+			<del>  '''</del>	┢	۲	П	16 —	ł	<b>-</b>	16 10 NO ODOD			
ļ .	1			+	<u> </u>	-			ł		16-18 NO ODOR			
L _	17-18	si	cl		L	_		17 —	1		dark gray v stiff			
				17.5-17.7	1			l '' -			C Comp 17-19			********
Γ	18-20	si	sa	1.2	ĺ	1		٠			dark gray, very moist			
<b>–</b> –	1.0 =0	<u> </u>	- Ju	†	H	%	2	18 —	1					
F .	<del>                                     </del>			+	┢	-			ł					
<u> </u>	<del>                                     </del>			1.0	1	1		19 —	ł					
L .				19.5-19.7	L					I	C grab			
I .				1.4		1		۰۰						
<b>–</b>				1	Ħ	T	П	20 —			T			
F .	<del> </del>			+	t	1			1					
<u> </u>	<del> </del>			+	<u> </u>	4		21 —	ł					
L .	1			1	<u> </u>	1								
					1			22			<u></u>			*******
						1		22 —	1					
Γ .	1			†	t	1		•	1					
H -	<del>                                     </del>			+	┢	-		23 —	ł					
<u> </u>	<del>                                     </del>			+	1	1	F		ł					
L	<u> </u>	<u> </u>	<u></u>	<u></u>	L	L		24 —			L			
						Г		24						
_					-	-1			-		<b></b>			

				Project No.: 6	3600							Boring	SB13	Sheet
				Client/Project	t: G	reg	ıg R	Refining				Well ID	MW13	Sileet
	5			Name of Geo	/Eng	و۔ L :. L	_auı	ra Rect	enwald			Location		1
	3												·	
	<b>F</b>			Name of Drill	er.	Jac	:ki≏	Raines	s no. 544	361		See origin	nal.	
	TOERO ASSOCIATES	E K		Tanio oi Dilli	J '	Juc		1 tan 100						
								-				4		
Location: F	Premier Rd. Lo	ngview, TX						Date/T	ime (sta	art): 4	/10/14 7:07 /10/14 8:30	4		
Drilling Co	.: Precision Pro	obe & Drillin	ng								Well): 20	1		
Drilling Eq	uip.: Geoprobe	7720 DT	<u> </u>					Depth	to Wate	r: (1st	) (Static)	1		
Sampling Inspector:	Equip: Macroco	re						Screer	n Interva	ıl: NA	Top of Casing: NA X: Y:	Ele	v.	
порсотот.					<b>+</b>	Π	۷			æ		Lic	v.	
Well				O) (A ()	Blow Cnt	Sec	Smpl Run	닱	Grab Sample	osit		o orintion		
Const				OVA (ppm)	<u>o</u>	% R	ldμ	Depth	Gra	omp Sam	De	scription	1	
					В		Ś		0)	ပ္ပိ တိ				
L .	si	stgt	0-0.2								topsoil			
L -								1 .						
ļ				1.5-1.7					4		tan		no odor	
L -	2-3.5	cl	si	0.6	-	%		2 -	-	-				
ļ.				2.5-2.7	-	ļ			-					
⊢ -	0.5.7		95 -	1.2		-		3 –	-					
ļ	3.5-7	gr	sa cl		<del>                                     </del>	ł			-		orange yellow		m dense	<del>!</del>
<u> </u>		1		4545	<del>                                     </del>	L	L	4 –	1	-	A Crob. 4.45			
<b>.</b> .				4.5-4.7		1			1		A-Grab: 4-4.5 A-Comp: 2-5			
<b>-</b> -				2.7		ł		5 -	-		A-Comp: 2-5			
-				5.5-5.7		1			-				no odor	
<b>-</b> -				2.8		%		6 -	-	-				
-	7-9.5	ol oo	oi.	7.5-7.7		ł			-		rod orongo			
<u> </u>	7-9.5	cl sa	si	0.7		ł		7 –	-		red orange		m dense	
-	1			0.7		1			1				no odor	
						H	4	8 –			B-Grab: 7.5-8		no odor	
-				9.5-9.7		1					B-Comp: 6-12			
<b>-</b> -	9.5-12.5	ar	sa cl	0.5		ł		9 -	-		D-Comp. 6-12		m etiff	
-	9.5-12.5	gr	Sa Ci	0.5		ł		•	-				m stiff	
<b>-</b> -				10.5-10.7		%		10 —	1				dry	
-				0.7		1		•	-					
	1			0.7		1		11 —						
<u> </u>	12.5-17.5	cl	sa si			1		•			dark gray		v dense	
⊢ -	12.00	<u> </u>		12.5-12.7		H	Н	12 —	1		dan gray			
┞ ・	1			0.7		1		•					no odor	
<b>–</b>				0		1		13 —						***************************************
r -					H	1		١. ١	1					
<b>–</b>				14.5-14.7	t	%		14 —	1					
<b>-</b>				0.6		1		٠	1					
F -		sa	si	15.5-15.7		1		15 —	1		dark gray wet but no	t a lot of	water	******************
r -		1		1.5		1			1		37			
<b>–</b>	17-17.5		cl			Т		16 —	1		dark gray			******************
r -	17.5-20	1	si sa			1		ا <sub></sub> ا	1		dark gray	m	dense	
_				17.5-17.7		1		17 —	1				oist	
<u> </u>				0.2		1_		40	1					
_				19.5-19.7		%		18 –	1		C-Grab: 19-19.5			
Γ -				0.3		1		10	1		C-Comp: 15-20			
_						1		19 —		1				
Γ .						1				1				
						Г		20 —	1					
Γ -						1		C4	1					
						1		21 –	1					
Γ -						1		00	1					
						1		22 –	1					
Γ						1		00	1					
						1		23 –	1					
								24						
								24 —						
	1	1		T		1			1	•	F			

Ī			_	Project No.: 6	6609							Boring	SB14	Sheet
		1		Client/Project	t: G	reg	gg R	Refining				Well ID	MW14	1
	3			Name of Geo	/Enc	j.: Ľ	auı	ra Rect	enwald			Location I		•
	<b>P</b>											]	-1	
												See origin	nal.	
	TOERO	E K		Name of Drill	ler:	Jac	ckie	Raines	no. 546	61		ľ		
	ASSOCIATES	, INC.												
								_			· · · · · · · · · · · · · · · · · · ·	Į		
Location: I	Premier Rd. Lo	ngview, TX	, 								/9/14 14:45	Į		
Daillin C	Dur -i-i 5	-h- 0 D									/9/14 16:10			
Drilling Co	.: Precision Pro	ope & Drillir	ng								Vell): 20	I		
Sampling Eq	uip.: Geoprobe Equip: Macroco	IIZU DI						Screen	to Wate Interva	ı. (⊺St I∵NI∧	) (Static) Top of Casing: NA	ł		
Inspector:	Equip. Macroco	<i>1</i> 10						Screen	iniciva	i. i N/A	X: Y:	Ele	v:	
						T	<b>c</b>			Φ		0		
Well					Blow Cnt	90	Smpl Run	ŧ	Grab Sample	osit ole	_			
Const				OVA (ppm)	Š	Ä	ď	Depth	3ra amp	Jgr Jgr	Des	scription		
COHST					BE	1%	Sm		Š	ည်တိ				
	0.05	- 00	o:		<del>                                     </del>	+	┢		1					
ļ .	0-0.5	sa	si	-	<u> </u>	4			-1		topsoil brown loose			
L _	0.5-2		cl sa			1		1 -	4		orange red m stiff			
L	2-5	<u></u>	sa cl	1.5-1.7	L			l	J		red gray v stiff no odor			
I				0.1		۱.		١, ١						
<u> </u>		1	1	2.5-2.7		%		2 -	1		A-Grab: 2.5-3			
F .	+		+	1.2	1	1		-	H	1	Λ-Comp: 1-2			
<b>-</b> -	+			1.2	1	4		3 -	1	<b>-</b>	A-Comp: 1-3			
L .	1					1		l .	_		B-Grab: 4-4.5			
	1	<u>L</u>	<u>L</u>		L	L	1	4 –			B-Comp: 3-5.5			
Γ -				4.5-4.7				4 -		Ī				
<b>T</b>	5-7	1	sa cl	1.0		1		•	l	1	red gray v stiff no odor			
H -	<del>                                     </del>		54 61	5.5-5.7	1	1		5 -	1		100 9149 1 0111 110 0401			
ļ						-		-	-					
L -				1.2		%		6 –	1					
								_						
Γ	7-10.2		cl si			1		_			orange gray yellow v den	se		
<b>—</b>		1		7.5-7.7	t	1		7 –	1					
F .	+	1	1	1.1	1	1		-	1		·			
⊢ -	1	<b> </b>	1	1.1	<u> </u>	H	┺	8 –	-					
<u>L</u> .	<u> </u>					1		Ι.	1					
<b>I</b>						1		۰						
_	1			9.5-9.7	ĺ	1		9 –	1		no odor			
Ι .	10.2-12		si sa	0.8	t	1			1		tan wet v soft			
H -	10.4-14	<b>!</b>	3130	10.5-10.7	1	%		10 —	1		tan wet v solt			
<u> </u>	<b>_</b>	ļ			1	-			4					
L _	1			1.1		1		11 —						
L	<u> </u>		<u> </u>		L			l '' _			L			<b></b>
Γ	12-12.5		sa cl			1		٠. ا			yellow/gray very moist m	stiff		
<b>-</b>	12.5-13	ar	cl sa	12.5-12.7	┢	۲	П	12 —	1					
F .	12.0-13	gr	UI Sa		├	-			-		fe gravel m de			
<u> </u>		ļ	1	0.8	<u> </u>	-		13 —						
L	13-14	<u></u>	si sa		L			•	J		yellow no odor			
Γ						٦,		١ ٔ						
F -	14-15		si cl	14.5-14.7	t	%		14 —	1		dark grav			
F .	15-17.5	1	si cl	0.2	<del>                                     </del>	1			1		dark gray dark gray silt lenses very	moict		
⊢ -	10-17.5	1	SI CI		1	-		15 —	-		uark gray Siit leftses very	กาบเรเ		
<b>.</b>	1			15.5-15.7	1	1		Ι.	-					
L	<u> </u>		<u> </u>	0.3	L	L		16 —	J		<u> </u>			
								10 -						
<b>T</b> .	17.5-20	1	sa si			1		•	1		dark gray no odor			
<b>-</b>	11.0 20		54 51	17.5-17.7		1		17 —	1		dan gray 110 0001			
<b>-</b>	1	<b>!</b>	<del>                                     </del>		1	-			-					
L -	1			1.0		%		18 —	4		C-Grab: 19-19.5			
L	<u> </u>		<u> </u>		L	` ً		•	J		C-Comp: 17-19			
Γ						1		40						
<b>—</b>		1		19.5-19.7	t	1		19 —	i		<b></b>			
F .	1	<u> </u>		0.3	1	1			1	1				
<u> </u>	<b>_</b>	ļ		0.3	1	1		20 —	4					
<u>L</u> .	<u> </u>					1		Ι.	1					
<b>I</b>						1		04						
_	1				ĺ	1		21 —	1					
F .	<del>                                     </del>	<b>†</b>	<del>†</del>		1	1			1					
H -	+	<b>!</b>		1	1	1		22 —	1		<b></b>			
ļ	<b>_</b>	ļ			1	4			-					
L _	1					1		23 —						
L	<u> </u>		<u> </u>		L						L			<b>-</b>
Γ						1		] '						
H -	+	1	-	1	1	╁	┢	24 —	1		·			
<u> </u>	1	1		-	1	4			1		<b></b>			



				Project No	o.: 66	609					Boring	SB16	Sheet
		<u></u>		Client/Pro	ject:	Gre			d al		Well ID	MW16	
	£	<b>P</b>		Name of 0	/eo	∟ng.:	Laura	Kectenwa	ald		Location Ma	o:	
	£	<u> </u>									See original.		
	TOEI	ROEK		Name of I	Drille	r: Ja	ackie R	aines no.	54661				
		ATES, INC.											
Location: F	Premier Rd.	Longview,	TX				Date/	Time (sta	art): 4	8/14 11:40	Ⅎ		
							Date/	Time (fin	ish): 4	/8/14 14:45			
Drilling Co	.: Geoprobe uip.: Precis	e 7720 DT sion Probe &	Drilling					n (bore): 2 n to Wate			+		
Sampling I	Equip: Macr	ocore						en Interva		Top of Casing: NA			
Inspector:					Ι.	1.	-1		Φ	X: Y:	Elev:		
Well				OVA	Blow Cnt	% Rec	ž	Grab Sample	Composite Sample	5			
Const				(ppm)	NO.	% R	Depth	Gre	omp Sam	De	escription		
					В	Ú	י	0)	ပ္ပိုက္ခ				
ļ	0-18"	<b>.</b>			<u> </u>	┦		4	1	brown			
	4.5.0.5"	Si	sa	4547		4 1	1	4			-		
F .	1.5-2.5"	si	sa	1.5-1.7	-	┦▐		-		moist, black brown loos	е		
<u> </u>	2.5-5	sa	cl	1.2 2.5-2.7	┢	%	2 -	$\dashv$	1	orange yellow v stiff			
F .	د.ن-ن	ъa	U	1.5	1	+		-	1	orange yellow v Still			
<b>–</b>	†	1		1.5	$\vdash$	1	3 -	-	1	A-Grab: 4.5-5			
<b>-</b>	†	1			$\vdash$	1		-	1	A-Comp: 3-7			
<b>–</b>	†	1		4.5-4.7	$\vdash$		4 -	-	1				
<b>-</b>				1334.0		┪ 🎚	_	+	1				
<b>–</b>	<u>†                                      </u>			5.5-5.7	t	1	5 -		1	gray & pink v stiff			
<u> </u>	5-7.0	sa	cl	682.0			_	1	1	X			
						%	6 -						
-						1	-	1					
	7-7.2	Fe gravel		7.5-7.7		]	7 -			yellow-brown dense			
	7.2-10	sa	cl	57.5			8			gray, yellow v stiff			
							0 -	]	1				
							9 -						
				9.5-9.7			9	]	1				
<u> </u>				48.1		%	10 -						<b></b>
<b>L</b> .	10-12	sa	cl	10.5-10		J .		4	1	brown v stiff			
L -	(10.7-11	)		65	<u> </u>		11 -		4	(wet) sand layer			
ļ .		ļ			<u> </u>	-		+	4	B-Grab:11-11.5			
<u> </u>	10.15		-1	40.5.40	ᄂ		12			B-Comp: 10-12			
ļ .	12-15	sa	cl	12.5-12	_	┨		-	1	alt layers of sand & clay	/, v stiff		
<u> </u>	12-12.5	0	cl	4.5	1	┨	13 -	$\dashv$	1	brown			
F .	12.5-12. 12.8-15		sa cl		├	┨		-	1	yellow	 ff		
<u> </u>	12.0-15	sa	CI	14.5-14	7	%	14 -	-	1	6" alt layers brown v sti			
-	1			7.2	_	┪┃		-	1				
<b>-</b>				1.2	$\vdash$	┪┃	15 -	-	1				
F :	15-17		sa	15.5-15	.7	┪┃		-	1	tan wet			
<b>-</b>	1.5 17		Ju	4.5		H	16 -	$\dashv$	1	1011 1101			
<b>-</b>	†	1		7.5	$\vdash$	┪┃		-	1				
<b>–</b>	†			17.5-17	.7	┪ 🎚	17 -	$\exists$					
F .	1			17.0				1					
	18-20			1	t	%	18 -	1	1	dark gray clay with silt l	enses vst		
Γ .	1	si	cl			1	40	1	1	3 , 1 1, 11111 1111			
				19-19.5			19 -	1	1	C-Grab: 19-19.5			
				29.0			20 -		L	C-Comp: 17-20			
							20 -						
							21 -		1				
							۷۱ -	]	1				
Ĺ .							22 -	_	1				
<u> </u>									1				<b></b>
L _					<u> </u>		23 -						
<b>L</b> .	<u> </u>					4		4	1				
L _					<u> </u>	Щ	24		1				
<u> </u>	<u> </u>					<b>↓ ∫</b>		4	1				

				Project No.:								Boring	SB17	Sheet
	2			Client/Project	:t: (	3re	gg F	Refining	1			Well ID	MW17	
				Name of Ge	o/En	g.:	Lau	ra Rec	enwald			Location	Мар:	
	TOER C	D E K s,INC.		Name of Dril	ler:	Ja	ckie	Raine	s no. 54	661		See orig	inal.	
Location: F	Premier Rd. Lo	ongview, TX		1				Date/T	ime (sta	rt): 4/	8/14 16:00	1		
								Date/T	ime (fini	sh): 4	/8/14 1805	1		
Drilling Co	.: Precision Pr	robe & Drilling						Depth	(bore): 2	20 (V	Vell): 20			
Drilling Equation	uip.: Geoprob Equip: Macroco	e 7720D1						Depth	to Wate Interva	r: (1st	) (Static) Top of Casing:	4		
Inspector:	_quip. Macroco	Jie						Screen	illiterva		X: Y:	EI	ev:	
					t		u			ē				
Well Const	Samples			OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Grab Sample	Composite Sample	De	scriptio	n	
L _								1	1	<u> </u>				
I		0-2.0	si sa	1.5-1.7				' '			gravelly silty sand tan w	orange/		
_				209.9		1								
		5-Feb	cl sa			%		2 -			Composite A 2-4			
·						1			1		Composite A 2-4 orange & tan very dense	A dra	h	
						1		3 -	1		orango a tan vory donoc	,,,,, g.a	<u></u>	
<u> </u>	+					-		•	-					
	+	1		4547		┝		4 –			0 4			
<u> </u>		1		4.5-4.7	<b>—</b>	-			<u> </u>	-	orange & tan			
<b>⊢</b> –				296.1		4		5 –						
L.		5-May	gr cl sa	5.5-5.7		1					orange & tan, wet, v sof	<u> </u>		
				31.3		%		6 -						
L .		6.5-7.5	sa cl			°`					gray with orange mottles	s, moist,	soft	
								7 –						
		7.5-10	cl si					/ -			gray with yellow nottles,	v dense	;	
i -				7.5-7.7		1				1	· · · · · · · · · · · · · · · · · · ·			
<b>–</b> –				73.4		T		8 –		1	B grab			
<b>-</b>				70.1		1		•	1		5 gras			
<b>-</b>				9.5-9.7		-		9 -	-					
ļ .						-			-					
		45.0.1		15.2		%		10 —						
ļ	1	15-Oct	gr ci sa si	10.5-10.7		4			4		gray with yellow mottles	, M dens	se	
				12		4		11 —						
<u> </u>						4								
L _								12 —						
L				12.5-12.7										
				3.0		1		40			Composite B 10-15			
								13 —						
-						1.								
<b>├</b> -				14.5-14.7		%		14 —	1					
Ι .	†	15-16.5	sl cl	3.6		1			1		dark gray with silt lenses			
<b>⊢</b> -	<del> </del>	.5 15.5	5, 5,	5.0		1		15 —	1		San gray with oil londer			
F .	+	16.5-16.8	si sa	6.8		1			1		dark grav wat			
⊢ -				0.0	$\vdash$	Ͱ		16 —	1	<u> </u>	dark gray, wet			
<u> </u>	1	16.8-17.8	si cl	1		-			-		dark gray			
⊢ -		1		475 /5-	<b>—</b>	-		17 —	-					
<u> </u>		,		17.5-17.7	-	-			4					
L -		17.8-	sa cl si	5.5		%		18 —	1		dark gray, moist			
L .									1					
L _								19 —						
L				14.5-19.7						]	C grab			<b></b>
<u> </u>				3.4		Ì		20						
_				1				20 —		Ĭ	C comp 17-20			
Γ.						1		٠. '	1					
F -		1				1		21 —	1					
F .	<del> </del>			<del>                                     </del>		1			1					
⊢ -	+	1				1		22 —	1					
F .				-		1			1					
⊢ -		1				-		23 —	1					
ļ .	1			ļ		-			-					
<b>⊢</b> –	ļ					Ļ	Ш	24 —	4					
L .									1					
Ī		l	l	1	l	1			1	Ĭ	<u> </u>			

_														
				Project No								Boring	SB18	Sheet
	2	1		Client/Pro						ıld		Well ID	MW18	
	<b>*</b>			Name of 0	Je0/I	⊏IJĈ	j.: L	.aura K	ectenwa	ııu		Location I	мар:	
												See origin	nal.	
	TOFFO	FK		Name of [	Drille	r:	Jac	kie Rai	nes no.	54661	l		- /**	
	TOERO ASSOCIATES	S, INC.												
Logation	Promis = D -l -l	naview T	<i></i>					Det: /	'im c /-1	m4\- 4	/0/14 0:00	4		
Location: F	Premier Rd. Lo	nigview, 12	`					Date/T	ime (sta	ııt): 4/ sb\∙ 4	/9/14 9:00 /9/14 11:30	1		
Drilling Co.	: Geoprobe 7	720 DT					-		(bore):			1		
Drilling Equ	uip.: Precision	Probe & D	rilling					Depth	to Wate	r: (1st	) (Static)	]		
	Equip: Macroco	ore						Screer	n Interva	I: NA	Top of Casing: NA X: Y:	Ele	· ·	
Inspector:							_		1	Φ		⊏i6.	v.	
Well				OVA	Blow Cnt	ec	Smpl Run	ŧ	Grab Sample	Composite Sample	_			
Const				(ppm)	ŏ	% R	ldu	Depth	Gra	am	De	scription	l	
	<u>                                     </u>			L	ā	l°`	S		S	ပ္ပိုက်				
	0-2		gravel	1.5-1.7							parking lot			
Ī -	2-1.5	sa	silt	0.5		1		,	1		brown			
		-				1		1 -	1		tan and black. Very mois	st, odor. I	oose, oily fe	el
<u> </u>	2-5	si	sa	1		1_	П		1		]	,, •	, <b>,</b>	
				2.5-2.7		%		2 –	1					
<u> </u>				113.7		1				1				
F -				. 10.7		1		3 –	t	1	A-Grab: 2.5-3			
F -					H	1			1		A-Comp: 2-5			
<b>–</b>			1	4.5-4.7		H	H	4 –	1		•			
F -	5-7	si	sa	105.7	H	1			1		tan very moist loose			
H -	5 /	31	Ja	5.5-5.7	$\vdash$	1		5 -	1		not oilv			
-				31.6		1			1		not oily odor not noticed			
<u> </u>	<del> </del>			31.0	$\vdash$	%	Ħ	6 -	1		OGOL HOLHOUGEU			
-	<del> </del>				$\vdash$	1			1					
<u> </u>	7.0	00	ما	7 5 7 7	H	1		7 –	1		brown with valley ad-			
<b>-</b>	7-8	sa	cl	7.5-7.7	├	1			1		brown with yellow, odor			
<u> </u>	0.0.5		ļ	13.8		H	Ш	8 –	-		ironotono arovol			
<u> </u>	8-8.5		gr		_	1			4		ironstone gravel			
<u> </u>	0.5.40.0		,	0.5.0.7	<u> </u>	1		9 –	4		red & gray with yellow v			
<u> </u>	8.5-10.2	sa	cl	9.5-9.7	_	1			4		red & gray with yellow v	stiff		
<u> </u>	10.0.10.7			1.2		%		10 —	4		brown very loose very w			
<u> </u>	10.2-12.5	si	sa	10.5-10		ľ			4		brown very loose very w	et		
L _				28.4	<u> </u>			11 —	1					
<u> </u>					<u> </u>				4		B-Grab: 12.5-13			
L _						L		12 —	1		B-Comp: 10-15			
L -	12.5-13.5	sa	si	12.5-12	.7				<u> </u>	I	gray & yellow vde			
L _				4.2		]		13 —		I				
	13.5-13.6		cl					13			brown v stiff			
	13.6-14.2	sa	si			。		14			gray & yellow			
	14.2-17.2	si	cl	14.5-14	.7	%		14 —	1		dark gray vst			
Ī -				1.4		1		15	1					
				15.5-15	.7	1		15 —	1					
Ī -			Ì	1.7		1		40	1					
						T		16 —	1					
<u> </u>	17.2-18.5	sa	si			1		•	1		dark gray v dense wet			
<b>–</b>	18.5-18.8	si	cl	17.5-17	.7	1		17 —	1		dark gray v stiff			
<u> </u>	18.8-19.3	sa	si	1.4		1		٠.	1		dark gray wet v dense			
<b>–</b>	19.3-20	si	cl	† <u>.</u>	H	%		18 —	1		dark gray wet v dense			
F -	10.0 20	- 31	01	1		1			1		aan gray v Juli			
F -				19.5-19	7	1		19 —	1	1	C-Grab: 19-19.5			
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				Project No.:			a Dati- i				Boring	SB19	Sheet
	2			Client/Proje	ct: (	reg	g Ketining	j tenwald			Well ID	N/A	
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											See origina	al	
	TARRE			Name of Dri	iller:	Jac	kie Raine	s no. 54	661		Jess origina		
	TOERO ASSOCIATE	S, INC.											
							1-				_		
Location: F	Premier Rd. L	ongview, TX	( 				Date/T	ime (sta	rt): 4/	/14/14 12:05	4		
Drilling Co.	.: Geoprobe 7	720 DT					Date/ I	(horo):	sh): 4	/14/14 14:15 Vell): N/A	4		
Drilling Co	uip.: Precision	Probe & D	rillina							) (Static)	1		
Sampling I	Equip: Macroc	ore	y					n Interva		Top of Casing: NA	<u> </u>		
Inspector:										X: Y:	Elev		
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-	12-13	OI .	31		_	-	-	-		dark gray v de moist			
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				Project No.:							Boring	SB20	Sheet
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				Name of Ge	eo/En	g.: l	∟aura Re	ctenwald			Location	Мар:	
	1										Coo origi	inal	
				Name of Dri	iller	Ja	ckie Rain	es no 54	1661		See origi	ıııdı.	
	TOER (	DEK				Jul		_ 0 .10. 0-					
	ASSOCIATE	:5, INC.		1									
Location: I	Premier Rd. L	ongview, TX		•			Date/	Time (sta	art): 4	/14/14 8:30			
										/14/14 11:15			
Drilling Co	.: Geoprobe 7	7720	****							Vell): N/A			
Drilling Eq	uip.: Precision Equip: Macroc	n Probe & Dr	rilling				Deptr	to Wate n Interva	r: (1st	) (Static) Top of Casing: NA			
Inspector:	Equip. Macroc	ore					Scree	ii iiileiva	ii. INA	X: Y:	Ele	ev:	
пороског.					T		С		Φ				
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L							$\mid \mid \mid$	J	1				
Γ						1	_	1	1	A-Grab: 4-4.5			
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<b>-</b>	5-7	60	cl	5.5-5.7	+	1	5 -	-	1	gray & pink v stiff			
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<u> </u>				761.6		%	6 -						
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<u> </u>	12.5-12.8	Sa		5.4	_	1		-		brown			
<u> </u>		1	sa	5.4		4	13 -	_		yellow			
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				Project No.:							Boring	SB21	Sheet
	2			Client/Project	ot: G	reg	g Refining	tonwold			Well ID	N/A	
				Name of Ge	o/En	g.: L	aura Rec	enwald			Location	Мар:	
											See origi	nal	
				Name of Dri	ller:	Jac	kie Raine	s no. 54	661		See ongi	ııdı.	
	TOERO ASSOCIATE	D E K						• 1			1		
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Location: F	Premier Rd. L	ongview, T	<				Date/T	ime (sta	rt): 4/	14/14 7:40	]		
							Date/T	ime (fini	sh): 4	/14/14 8:30			
Drilling Co	.: Geoprobe 7 uip.: Precision	720 DT	rillin ~				Depth	(bore): 5	(W	ell): N/A	4		
Drilling Equation I	uip.: Precisior Equip: Macroc	rrobe & D	ulling					to Wate Interva		) (Static) Top of Casing: NA	1		
Inspector:	Lyuip. Maciol	010					Julea	iniciva	1471	X: Y:	Ele	ev:	
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Well				OVA	Blow Cnt	% Rec	mpi Kui Depth	Grab Sample	osi: ple	<b>.</b>	o orinti-	_	
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# MONITORING WELL CONSTRUCTION FORMS MW9 THROUGH MW18

SITE ID: MW9(6609,SB9) WELL LOCATION: \_\_601\_Premier Rd. Longview, TX\_\_ FIELD REPRESENTATIVE: \_\_\_Kieler\_ TYPE OF FILTER PACK: \_\_Unimin FilterSil\_ GRADIATION: \_20/40\_ AMOUNT OF FILTER PACK USED: \_13 sacks DRILLING CONTRACTOR: \_Precision Probe & Drilling\_ DRILLING TECHNIQUE: Continuous TYPE OF BENTONITE: \_\_3/8" Hole Plug Halliburton Wy, Sodium Bentonite AUGER SIZE AND TYPE: \_\_HSA 4.25\_ AMOUNT BENTONITE USED: <u>3 sacks</u> TYPE OF CEMENT: Sackcrete for pad BOREHOLE IDENTIFICATION: <u>SB9</u> BOREHOLE DIAMETER: 8.25" AMOUNT CEMENT USED: \_\_See Below WELL IDENTIFICATION: \_MW9\_ GROUT MATERIALS USED: \_\_bentonite to surface\_ WELL CONSTRUCTION START DATE: \_\_4/10/14\_ WELL CONSTRUCTION COMPLETE DATE: 4/10/2014 DIMENSIONS OF SECURITY CASING: 4" by 4" TYPE OF WELL CAP: \_\_orange torquer\_ SCREEN MATERIAL: \_Sched 40 PVC 0.010 slot\_\_ SCREEN DIAMETER: \_2"\_ TYPE OF END CAP: \_\_\_PVC pointed end cap\_\_ STRATUM-SCREENED INTERVAL (FT): <u>5-20</u> COMMENTS: CASING MATERIAL: <u>Sched 40 PVC</u> CASING DIAMETER: \_\_2"\_ SPECIAL CONDITIONS SECURITY CASING WELL CAP-(describe and draw) CASING LENGTH ABOVE GROUND SURFACE \_ DIMENSION OF CONCRETE PAD GROUND SURFACE (REFERENCE POINT) **LEGEND GROUT** BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL - DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN 5 ft SCREEN LENGTH 15 ft **END CAP** SAND CELLAR DEPTH TO BASE OF WELL 20 ft LENGTH BOREHOLE DEPTH 20 ft 6" NOT TO SCALE INSTALLED BY: Jackie Raines, Precision Drilling INSTALLATION OBSERVED BY: Laura Rectenwald

\*No cement grout-bentonite seal to surface used.

DISCREPANCIES: No cement amount recorded\_

SITE ID: MW10 (6609, SB10)		
	WELL LOCATION: 601 Premier Rd. Longview, TX	
FIELD REPRESENTATIVE: <u>Kieler</u>	TYPE OF FILTER PACK:Unimin Filter Sil GRADIATION: _20/40_silica sand AMOUNT OF FILTER PACK USED: _13 sacks	
DRILLING CONTRACTOR: Precision Probe & Drilling		
DRILLING CONTRACTOR. Treesson From the Britishing		
DRILLING TECHNIQUE: Continuous AUGER SIZE AND TYPE: HSA 4.25 BOREHOLE IDENTIFICATION: SB10	TYPE OF BENTONITE:3/8" Hole Plug Wy, Sodium Bentonite AMOUNT BENTONITE USED:2 sacks  TYPE OF CEMENT:Sakrete for pad only AMOUNT CEMENT USED:8 bags for pad GROUT MATERIALS USED:bentonite	
		BOREHOLE DIAMETER:8.25"
		WELL IDENTIFICATION: MW10
WELL CONSTRUCTION START DATE: 4/10/14 WELL CONSTRUCTION COMPLETE DATE: 4/12/14		DIMENSIONS OF SECURITY CASING: _Flushmount
SCREEN MATERIAL: _Sched 40 PVC 0.010 slot		TYPE OF WELL CAP: <u>orange torquer</u>
SCREEN DIAMETER: _2"	TYPE OF END CAP: PVC pointed end cap	
STRATUM-SCREENED INTERVAL (FT): <u>5-20</u>	— COMPARTME	
CASING MATERIAL: _Sched 40 PVC_	COMMENTS:	
CASING DIAMETER: 2"	-	
ECIAL CONDITIONS	Flushmount	
scribe and draw)  WELL CAP		
sories and draw,	CASING LENGTH ABOVE GROUND SURFACE 0 ft	
	DIMENSION OF CONCRETE PAD 3ft by 3ft	
$\sigma \sigma $		
	GROUND SURFACE (REFERENCE POINT)	
	LEGEND	
	LEGEND	
	GROUT	
	GROUT BENTONITE SEAL	
	GROUT	
	GROUT BENTONITE SEAL	
	GROUT BENTONITE SEAL FILTER PACK	
	GROUT BENTONITE SEAL	
	GROUT  BENTONITE SEAL  FILTER PACK  DEPTH TO TOP OF BENTONITE SEAL  0 ft *	
	GROUT BENTONITE SEAL FILTER PACK	
	GROUT  BENTONITE SEAL  FILTER PACK  DEPTH TO TOP OF BENTONITE SEAL  0 ft *	
	GROUT  BENTONITE SEAL  FILTER PACK  DEPTH TO TOP OF BENTONITE SEAL  0 ft *	
SCREEN LENGTH	GROUT BENTONITE SEAL FILTER PACK  DEPTH TO TOP OF BENTONITE SEAL Oft*  DEPTH TO TOP OF FILTER PACK 3 ft	
LENGTH —	GROUT  BENTONITE SEAL  FILTER PACK  DEPTH TO TOP OF BENTONITE SEAL  Oft*  DEPTH TO TOP OF FILTER PACK  3 ft	
	GROUT BENTONITE SEAL FILTER PACK  DEPTH TO TOP OF BENTONITE SEAL  Oft*	
LENGTH	GROUT  BENTONITE SEAL  FILTER PACK  DEPTH TO TOP OF BENTONITE SEAL  0 ft *  DEPTH TO TOP OF FILTER PACK  3 ft  END CAP  END CAP	
LENGTH	GROUT  BENTONITE SEAL  FILTER PACK  DEPTH TO TOP OF BENTONITE SEAL  Oft*  DEPTH TO TOP OF FILTER PACK  3 ft  DEPTH TO TOP OF SCREEN  END CAP  DEPTH TO BASE OF WELL  20 ft	
LENGTH	GROUT  BENTONITE SEAL  FILTER PACK  DEPTH TO TOP OF BENTONITE SEAL  0 ft *  DEPTH TO TOP OF FILTER PACK  3 ft  END CAP  END CAP	
LENGTH	GROUT  BENTONITE SEAL  FILTER PACK   DEPTH TO TOP OF BENTONITE SEAL  0 ft *  DEPTH TO TOP OF FILTER PACK  3 ft  DEPTH TO TOP OF SCREEN  5 ft  END CAP  DEPTH TO BASE OF WELL  BOREHOLE DEPTH  20 ft	
LENGTH	GROUT  BENTONITE SEAL  FILTER PACK  DEPTH TO TOP OF BENTONITE SEAL  Oft*  DEPTH TO TOP OF FILTER PACK  3 ft  DEPTH TO TOP OF SCREEN  END CAP  DEPTH TO BASE OF WELL  BOREHOLE DEPTH  20 ft  NOT TO SCALE	

<sup>\*</sup> No cement grout-bentonite seal to surface was used.

SITE ID: <u>MW11 (6609, SB11)</u>	WELL LOCATION:601 Premier Rd. Longview, TX
FIELD REPRESENTATIVE: <u>Kieler</u>	TYPE OF FILTER PACK: <u>Unimin Filter Sil</u>
DRILLING CONTRACTOR: Precision Probe & Drilling	GRADIATION: _20/40_ silica sand AMOUNT OF FILTER PACK USED: _13 sacks
DRILLING CONTRACTOR. FIECISION FLODE & DIMMING	AMOUNT OF FILTER FACE USED. 13 sacks
DRILLING TECHNIQUE: Continuous	
AUGER SIZE AND TYPE: HSA 4.25	AMOUNT BENTONITE USED: 2 sacks
BOREHOLE IDENTIFICATION: <u>SB11</u>	
BOREHOLE DIAMETER: <u>8.25"</u> WELL IDENTIFICATION: <u>MW11</u>	AMOUNT CEMENT USED: 8 bags for pad and bumper pos GROUT MATERIALS USED: bentonite to surface
WEEE IDENTIFICATION. INWIT	ONO CI MITTERIALIS COLD. Senionic to surface
WELL CONSTRUCTION START DATE: 4/10/14 WELL CONSTRUCTION COMPLETE DATE: 4/12/14	DIMENSIONS OF SECURITY CASING: _4" by 4", 5 ft tall
SCREEN MATERIAL: Sched 40 PVC 0.010 slot SCREEN DIAMETER: 2"	TYPE OF WELL CAP: <u>orange torquer</u> TYPE OF END CAP: <u>PVC</u> pointed end cap
STRATUM-SCREENED INTERVAL (FT): 5-20 ft	
CASING MATERIAL: Sched 40 PVC	COMMENTS:
CASING MATERIAL: Sched 40 PVC  CASING DIAMETER: 2"	<del>-</del> -
PECIAL CONDITIONS WELL CAP	SECURITY CASING
escribe and draw)	CASING LENGTH ABOVE GROUND SURFACE3 ft
	DIMENSION OF CONCRETE PAD 3ft by 3ft
	GROUND SURFACE (REFERENCE POINT)
	LEGEND
	GROUT
	BENTONITE SEAL
	FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 0 ft *
·.	DEPTH TO TOP OF FILTER PACK 3 ft
	0 0 0 0 0 0
SCREEN	DEPTH TO TOP OF SCREEN 5 ft
LENGTH —	
_15 ft_	END CAP
SAND CELLAR	DEDTH TO PASE OF WELL 20 #
	DEI III IO DAGE OI WELL ZUIL
LENGTH	
LENGTH	BOREHOLE DEPTH 20 ft
LENGTH	BOREHOLE DEPTH 20 ft
LENGTH	BOREHOLE DEPTH 20 ft  NOT TO SCALE

<sup>\*</sup>No cement grout-bentonite seal to surface was used.

SITE ID: <u>MW12 (6609, SB12)</u>	WELL LOCATION: 601 Premier Rd. Longview, TX
FIELD REPRESENTATIVE: Kieler	TYPE OF FILTER PACK:Unimin Filter Sil
DDILLING CONTRACTOR D ' D L 0 D 'II'	GRADIATION: 20/40_silica sand
DRILLING CONTRACTOR: Precision Probe & Drilling	AMOUNT OF FILTER PACK USED: 9 sacks
DRILLING TECHNIQUE: Continuous	TYPE OF BENTONITE: 3/8" Hole Plug WY Sodium Bentonite
AUGER SIZE AND TYPE: HSA 4.25	AMOUNT BENTONITE USED: 4 bags
BOREHOLE IDENTIFICATION: SB12	TYPE OF CEMENT: Sakrete for pad
	AMOUNT CEMENT USED: 12 sacks for pad and bumper post
WELL IDENTIFICATION: <u>MW12</u>	GROUT MATERIALS USED: <u>bentonite to surface</u>
WELL CONSTRUCTION START DATE: 4/9/14	
	DIMENSIONS OF SECURITY CASING: 4" by 4", 5 ft tall
	•
SCREEN MATERIAL: Sched 40 PVC 0.010 slot SCREEN DIAMETER: 2"	THE OF THE CAR DATE AND A LOCAL DATE OF THE CARD DATE OF
SCREEN DIAMETER: <u>2"</u> STRATUM-SCREENED INTERVAL (FT): 10-20 ft	TIPE OF END CAPPVC pointed end cap
	COMMENTS:
CASING MATERIAL: Sched 40 PVC	_
CASING DIAMETER: 2"	
T T	一
CIAL CONDITIONS WELL CAP	SECURITY CASING
ribe and draw)	CASING LENGTH ABOVE GROUND SURFACE 0 ft
	DIMENSION OF CONCRETE PAD 3ft by 3ft
	GROUND SURFACE (REFERENCE POINT)
	LEGEND
	GROUT
	BENTONITE SEAL
	FILTER PACK
-	DEPTH TO TOP OF BENTONITE SEAL 0 ft *
	DEPTH TO TOP OF FILTER PACK 8 ft
<u>`</u>	<u></u>
<b>;:</b>	DEPTH TO TOP OF SCREEN 10 ft
SCREEN	<del></del>
LENGTH —	- <mark>-</mark>   -  -
	END CAP
SAND CELLAR	DEPTH TO BASE OF WELL 20 ft
LENGTH	
<u>6"</u>	BOREHOLE DEPTH 20 ft
TOTALLED DAY 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	NOT TO SCALE
STALLED BY: <u>Jackie Raines, Precision Drilling</u> I	INSTALLATION OBSERVED BY: <u>Laura Rectenwald</u>
ISCREPANCIES:	

<sup>\*</sup>No cement grout-bentonite seal to surface was used.

SITE ID:MW13 (6609, SB13)	WELL LOCATION:601 Premier Rd. Longview, TX
FIELD REPRESENTATIVE: Kieler	<del></del>
DRILLING CONTRACTOR: Precision Probe & Drilling	GRADIATION: _20/40 AMOUNT OF FILTER PACK USED: _9 sacks
DRILLING TECHNIQUE: Continuous  AUGER SIZE AND TYPE: HSA 4.25	TYPE OF BENTONITE:3/8" Hole Plug Wy Sodium Bentonite AMOUNT BENTONITE USED: _4 sacks
BOREHOLE IDENTIFICATION: SB13  BOREHOLE DIAMETER: 8.25"  WELL IDENTIFICATION: MW13	TYPE OF CEMENT: <u>Sakrete for pad</u> AMOUNT CEMENT USED: <u>12 sacks for pad and bumper post</u> GROUT MATERIALS USED: <u>bentonite to surface</u>
WELL CONSTRUCTION START DATE:4/10/14 WELL CONSTRUCTION COMPLETE DATE: _4/11/14	DIMENSIONS OF SECURITY CASING: 4" by 4", 5 ft tall
SCREEN MATERIAL: Sched 40 PVC 0.010 slot SCREEN DIAMETER: 2" STRATUM-SCREENED INTERVAL (FT): 10-20 ft	
CASING MATERIAL: Sched 40 PVC CASING DIAMETER: 2"	COMMENTS:
SPECIAL CONDITIONS WELL CAP describe and draw)	SECURITY CASING  CASING LENGTH ABOVE GROUND SURFACE 3 ft  DIMENSION OF CONCRETE PAD 3ft by 3ft
	GROUND SURFACE (REFERENCE POINT)  LEGEND  GROUT  BENTONITE SEAL  FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 0 ft *
	DEPTH TO TOP OF FILTER PACK 8 ft
SCREEN LENGTH	DEPTH TO TOP OF SCREEN 10 ft
_10 ft	END CAP
SAND CELLAR	DEPTH TO BASE OF WELL 20 ft
LENGTH 6"	BOREHOLE DEPTH 20 ft
	NOT TO SCALE
INSTALLED BY: <u>Jackie Raines, Precision Drilling</u> II	
DISCREPANCIES:	
· · · · · · · · · · ·	

<sup>\*</sup>No cement grout-bentonite seal to surface was used.

SITE ID:MW14 (6609, SB14)	WELL LOCATION:601 Premier Rd. Longview, TX
FIELD REPRESENTATIVE: Kieler	
DRILLING CONTRACTOR: Precision Probe & Drilling	GRADIATION: <u>20/40 silica sand</u> AMOUNT OF FILTER PACK USED: <u>9 sacks</u>
DRILLING TECHNIQUE: Continuous	TYPE OF BENTONITE:3/8" Hole Plug
AUGER SIZE AND TYPE: HSA 4.25	AMOUNT BENTONITE USED: 4 sacks
BOREHOLE IDENTIFICATION: <u>SB14</u>	TYPE OF CEMENT: Sakrete for pad
BOREHOLE DIAMETER: 8.25"	AMOUNT CEMENT USED: <u>12 sacks for pad and bumper post</u>
WELL IDENTIFICATION: <u>MW14</u>	GROUT MATERIALS USED: <u>bentonite to surface</u>
WELL CONSTRUCTION START DATE: 4/9/14 WELL CONSTRUCTION COMPLETE DATE: 4/11/14	DIMENSIONS OF SECURITY CASING: _4" by 4", 5 ft tall
SCREEN MATERIAL: Sched 40 PVC 0.010 slot	
SCREEN DIAMETER: _2"_ STRATUM-SCREENED INTERVAL (FT): _10-20 ft	TYPE OF END CAP:PVC pointed end cap
CASING MATERIAL: _Sched 40 PVC	COMMENTS:
CASING MATERIAL: Sched 40 PVC  CASING DIAMETER: 2"	- -
ECIAL CONDITIONS scribe and draw)  WELL CAP	SECURITY CASING  CASING LENGTH APONE CROHNING SHIPEAGE AS A
,	CASING LENGTH ABOVE GROUND SURFACE 3 ft  DIMENSION OF CONCRETE PAD 3ft by 3ft
	GROUND SURFACE (REFERENCE POINT)
	LEGEND
	GROUT
	BENTONITE SEAL
	FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 0 ft *
	DEPTH TO TOP OF BENTONITE SEAL 0 ft *
$\overline{ec{\cdot}}$	DEPTH TO TOP OF FILTER PACK  8 ft
	DEPTH TO TOP OF SCREEN 10 ft
SCREEN LENGTH —	
	END CAP
SAND CELLAR	DEPTH TO BASE OF WELL 20 ft
LENGTH 6"	BOREHOLE DEPTH 20 ft
	NOT TO SCALE
INSTALLED BY: <u>Jackie Raines, Precision Drilling</u> II	NSTALLATION OBSERVED BY: <u>Laura Rectenwald</u>
DISCREPANCIES:	

<sup>\*</sup> No cement grout-bentonite seal to surface was used.

WELL LOCATION: 601 Premier Rd. Longview, TX SITE ID: MW15 (6609, SB15) FIELD REPRESENTATIVE: \_\_\_Kieler\_ TYPE OF FILTER PACK: <u>Unimin Filter Sil</u> GRADIATION: \_20/40 silica sand\_ AMOUNT OF FILTER PACK USED: \_13 sacks DRILLING CONTRACTOR: \_Precision Probe & Drilling\_ DRILLING TECHNIQUE: Continuous TYPE OF BENTONITE: \_\_3/8" Hole Plug \_ AUGER SIZE AND TYPE: \_\_HSA 4.25\_ AMOUNT BENTONITE USED: <u>2 bags</u> TYPE OF CEMENT: Sakrete for pad BOREHOLE IDENTIFICATION: <u>SB15</u> BOREHOLE DIAMETER: <u>8.25</u>" AMOUNT CEMENT USED: See Below WELL IDENTIFICATION: \_MW15\_ GROUT MATERIALS USED: \_\_bentonite to surface\_\_ WELL CONSTRUCTION START DATE: 4/8/14 WELL CONSTRUCTION COMPLETE DATE: \_4/11/14 DIMENSIONS OF SECURITY CASING: \_Flushmount\_ SCREEN MATERIAL: Sched 40 PVC 0.010 slot TYPE OF WELL CAP: \_\_orange torquer\_ SCREEN DIAMETER: \_2"\_ TYPE OF END CAP: \_\_\_PVC pointed end cap\_ STRATUM-SCREENED INTERVAL (FT): 3-18 ft COMMENTS: Screen was placed as high as possible CASING MATERIAL: <u>Sched 40 PVC</u> due to apparent potential for LNAPL and very shallow, CASING DIAMETER: \_\_2"\_ wet and contaminated looking/smelling soil SPECIAL CONDITIONS Flushmount WELL CAP-(describe and draw) CASING LENGTH ABOVE GROUND SURFACE 3 ft \_ DIMENSION OF CONCRETE PAD Flushmount GROUND SURFACE (REFERENCE POINT) **LEGEND GROUT** BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK 1 ft DEPTH TO TOP OF SCREEN 3 ft SCREEN LENGTH 15 ft **END CAP** SAND CELLAR DEPTH TO BASE OF WELL 18 ft LENGTH BOREHOLE DEPTH 18 ft 6" NOT TO SCALE INSTALLED BY: Jackie Raines, Precision Drilling INSTALLATION OBSERVED BY: Laura Rectenwald

<sup>\*</sup> No cement grout-bentonite seal to surface was used.

Plug wy sodium bentonite sacks  pad cks for pad and bumper post entonite  SING: _4" by 4", 5 ft tall orquer ted end cap
Plug wy sodium bentonite sacks  pad cks for pad and bumper post entonite  SING: _4" by 4", 5 ft tall orquer
pad
cks for pad and bumper post entonite  SING: _4" by 4", 5 ft tall
orquer
ROUND SURFACE 3 ft CONCRETE PAD 3ft by 3ft  E (REFERENCE POINT)  LEGEND  GROUT  BENTONITE SEAL  FILTER PACK  TONITE SEAL  0 ft *
ER PACK 8 ft
EEN10 ft
LL 20 ft
20 ft
NOT TO SCALE
( ); ( );

<sup>\*</sup> No cement grout-bentonite seal to surface was used.

SITE ID: <u>MW17 (6609, SB17)</u>	WELL LOCATION: 601 Premier Rd. Longview, TX	
FIELD REPRESENTATIVE: <u>Kieler</u>	TYPE OF FILTER PACK:Unimin Filter Sand	
DRILLING CONTRACTOR: _Precision Probe & Drilling_	GRADIATION: _20/40 silica sand AMOUNT OF FILTER PACK USED: _9 sacks	
DRILLING TECHNIQUE: Continuous  AUGER SIZE AND TYPE: HSA 4.25	TYPE OF BENTONITE:3/8" Hole Plug wy sodium bentoniteAMOUNT BENTONITE USED:4 sacks  TYPE OF CEMENT:Sakrete for pad only	
		RODEHOI E IDENTIFICATION: \$817
BOREHOLE DIAMETER: 8.25"		
WELL IDENTIFICATION: _MW17  WELL CONSTRUCTION START DATE:4/8/14  WELL CONSTRUCTION COMPLETE DATE:4/11/14		GROUT MATERIALS USED: <u>bentonite</u>
	DIMENSIONS OF SECURITY CASING: 4" by 4", 5 ft tall	
SCREEN MATERIAL: Sched 40 PVC 0.010 slot		
SCREEN DIAMETER: _2" STRATUM-SCREENED INTERVAL (FT): _10-20 ft	TYPE OF END CAP:PVC pointed end cap	
STRATUM-SCREENED INTERVAL (F1). 10-20 R	COMMENTS:	
CASING MATERIAL: Sched 40 PVC CASING DIAMETER: 2"	- -	
PECIAL CONDITIONS escribe and draw)	SECURITY CASING  CASING LENGTH ABOVE GROUND SURFACE 3 ft  DIMENSION OF CONCRETE PAD 3ft by 3ft  GROUND SURFACE (REFERENCE POINT)  LEGEND  GROUT  BENTONITE SEAL  FILTER PACK	
	DEPTH TO TOP OF BENTONITE SEAL 0 ft *	
	DEPTH TO TOP OF BENTONITE SEAL 0 ft *  DEPTH TO TOP OF FILTER PACK 8 ft	
SCREEN LENGTH		
	DEPTH TO TOP OF FILTER PACK 8 ft  DEPTH TO TOP OF SCREEN 10 ft	
LENGTH	DEPTH TO TOP OF FILTER PACK 8 ft  DEPTH TO TOP OF SCREEN 10 ft  END CAP	
LENGTH —	DEPTH TO TOP OF FILTER PACK  DEPTH TO TOP OF SCREEN  10 ft  END CAP  DEPTH TO BASE OF WELL  20 ft	
LENGTH	DEPTH TO TOP OF FILTER PACK  8 ft  DEPTH TO TOP OF SCREEN  10 ft  END CAP	
LENGTH	DEPTH TO TOP OF FILTER PACK  B ft  DEPTH TO TOP OF SCREEN  10 ft  END CAP  DEPTH TO BASE OF WELL  20 ft	

<sup>\*</sup> No cement grout-bentonite seal to surface was used.

WELL LOCATION: 601 Premier Rd. Longview, TX SITE ID: MW18 (6609, SB18) FIELD REPRESENTATIVE: \_\_\_Kieler\_ TYPE OF FILTER PACK: \_\_Unimin Filter Sil\_ GRADIATION: \_20/40 silica sand\_ AMOUNT OF FILTER PACK USED: \_9 sacks DRILLING CONTRACTOR: \_Precision Probe & Drilling\_ DRILLING TECHNIQUE: Continuous TYPE OF BENTONITE: \_\_3/8" Hole Plug \_ AUGER SIZE AND TYPE: \_\_HSA 4.25\_ AMOUNT BENTONITE USED: \_\_\_\_\_ \_ TYPE OF CEMENT: <u>Sakrete for pad</u> BOREHOLE IDENTIFICATION: SB18 BOREHOLE DIAMETER: <u>8.25</u>" AMOUNT CEMENT USED: WELL IDENTIFICATION: \_MW18\_ GROUT MATERIALS USED: \_\_bentonite to surface\_ WELL CONSTRUCTION START DATE: \_\_4/9/14\_ WELL CONSTRUCTION COMPLETE DATE: \_4/11/14 \_\_ DIMENSIONS OF SECURITY CASING: \_4" by 4", 5 ft tall\_ SCREEN MATERIAL: \_Sched 40 PVC 0.010 slot\_\_\_ TYPE OF WELL CAP: \_\_orange torquer\_ TYPE OF END CAP: \_\_\_PVC pointed end cap\_\_ SCREEN DIAMETER: \_2"\_ STRATUM-SCREENED INTERVAL (FT): 10-20 ft COMMENTS: CASING MATERIAL: <u>Sched 40 PVC</u> CASING DIAMETER: \_\_2"\_ SPECIAL CONDITIONS SECURITY CASING WELL CAP-(describe and draw) CASING LENGTH ABOVE GROUND SURFACE 3 ft \_ DIMENSION OF CONCRETE PAD 3ft by 3ft GROUND SURFACE (REFERENCE POINT) **LEGEND GROUT** BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL 8 ft - DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN 10 ft SCREEN LENGTH 10 ft **END CAP** SAND CELLAR DEPTH TO BASE OF WELL 20 ft LENGTH BOREHOLE DEPTH 20 ft 6" NOT TO SCALE INSTALLED BY: Jackie Raines, Precision Drilling INSTALLATION OBSERVED BY: Laura Rectenwald

DISCREPANCIES: No amount of cement / bentonite recorded\_

<sup>\*</sup> No cement grout-bentonite seal to surface was used.

# STATE OF TEXAS WELL REPORTS MW9 THROUGH MW18

Owner:

EPA Region 6

Address:

1445 Ross Ave. Suite 1200

Dallas, TX 75202

Well Location:

601 Premier Road Longview, TX 75604

Well County:

Gregg

Elevation:

361 ft.

Longitude:

GPS Brand Used:

094° 48' 38" W Google Earth

32° 30' 11" N

New Well

Proposed Use:

Owner Well #:

Grid #:

Latitude:

Monitor

MW-9

35-26-8

**Drilling Date:** 

Type of Work:

Started: 4/10/2014 Completed: 4/10/2014

Diameter of Hole:

Diameter: 8.25 in From Surface To 20 ft

**Drilling Method:** 

Hollow Stem Auger

Borehole Completion:

Other: 20/40 sand

Annular Seal Data:

1st Interval: From 1 ft to 3 ft with 2 bentonite (#sacks and material) 2nd Interval: From 3 ft to 20 ft with 13 20/40 sand (#sacks and material)

3rd Interval: No Data Method Used: No Data Cemented By: No Data

Distance to Septic Field or other Concentrated Contamination: No Data

Distance to Property Line: No Data Method of Verification: No Data Approved by Variance: No Data

Surface Completion:

Surface Slab Installed

Water Level:

Static level: No Data Artesian flow: No Data

Packers:

No Data

Plugging Info:

Casing or Cement/Bentonite left in well: No Data

Type Of Pump:

No Data

Well Tests:

No Data

Water Quality:

Type of Water: No Data Depth of Strata: No Data Chemical Analysis Made: No

Did the driller knowingly penetrate any strata which contained undesirable

constituents: No

Certification Data:

The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and

resubmittal.

Company Information:

**Precision Probe and Drilling** 9416 Prestonwood Drive Shreveport, LA 71115

Driller License Number:

**Jackie Raines** 

Registered Driller Apprentice Signature:

No Data

Apprentice Registration Number:

No Data

Comments:

No Data

# IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking number (Tracking #364220) on your written request.

Texas Department of Licensing & Regulation P.O. Box 12157 Austin, TX 78711 (512) 463-7880

#### DESC. & COLOR OF FORMATION MATERIAL

CASING, BLANK PIPE & WELL SCREEN DATA

From (ft) To (ft) Description
0-.5 Top soil
.5- 1.5 Clay red to orange
1.5-2.5 Sandy Silt brown
2.5-5 Gray sandy silt
5-7 Gray silty sand
7-11 Gray sandy clay
11-14 Yellow and gray silty sand
14-17 dark gray silty clay
17-20Dark gray sandy silt

Dia. New/Used Type 2 New PVC 0-5 casing 2 New PVC 5-20 .010 screen

Setting From/To

Owner:

**EPA Region 6** 

Owner Well #:

MW-10

Address:

1445 Ross Ave. Suite 1200 Dallas , TX 75202

Grid #:

35-26-8

Well Location:

601 Premier Road Longview, TX 75604

Latitude:

32° 30' 09" N

Well County:

Gregg

Longitude:

Elevation:

094° 48' 37" W

364 ft.

GPS Brand Used:

Google Earth

Type of Work:

**New Well** 

Proposed Use:

Monitor

**Drilling Date:** 

Started: 4/10/2014

Completed: 4/12/2014

Diameter of Hole:

Diameter: 8.25 in From Surface To 20 ft

**Drilling Method:** 

Hollow Stem Auger

Borehole Completion:

Other: 20/40 sand

Annular Seal Data:

1st Interval: From 0 ft to 3 ft with 2 bentonite (#sacks and material) 2nd Interval: From 3 ft to 20 ft with 13 20/40 sand (#sacks and material)

3rd Interval: No Data Method Used: No Data Cemented By: No Data

Distance to Septic Field or other Concentrated Contamination: No Data

Distance to Property Line: No Data Method of Verification: No Data Approved by Variance: No Data

Surface Completion:

Surface Slab Installed

Water Level:

Static level: No Data Artesian flow: No Data

Packers:

No Data

Plugging Info:

Casing or Cement/Bentonite left in well: No Data

Type Of Pump:

No Data

Well Tests:

No Data

Water Quality:

Type of Water: No Data Depth of Strata: No Data Chemical Analysis Made: No

Did the driller knowingly penetrate any strata which contained undesirable

constituents: No

Certification Data:

The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and

resubmittal.

Company Information:

Precision Probe and Drilling 9416 Prestonwood Drive Shreveport, LA 71115

Driller License Number:

**Jackie Raines** 

Registered Driller Apprentice Signature:

No Data

Apprentice Registration Number:

No Data

Comments:

No Data

## IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking number (Tracking #364222) on your written request.

Texas Department of Licensing & Regulation P.O. Box 12157
Austin, TX 78711
(512) 463-7880

#### DESC. & COLOR OF FORMATION MATERIAL

CASING, BLANK PIPE & WELL SCREEN DATA

From (ff) To (ff) Description
0-7.5 orange and red road hase clay sand
7.5-10 tan sandy silt
10-14 red yellow and with sandy clay
14-15 yellow and gray gravely clay
15-17.5 tan silty sand
17.5-18 dark brown silty clay
18-20 yellowish tan silty sand

Dia. New/Used Type
2 New PVC 0-5 casing
2 New PVC 5-20 .010 screen

Setting From/To

Owner:

**EPA Region 6** 

Owner Well #:

MW-11

Address:

1445 Ross Ave. Suite 1200

Grid #:

35-26-8

Well Location:

Dallas , TX 75202 601 Premier Road

Longview, TX 75604

Latitude:

32° 30' 00" N

Well County:

Gregg

Longitude:

094° 48' 36" W

Elevation:

367 ft.

GPS Brand Used:

Google Earth

Type of Work:

New Well

Proposed Use:

Monitor

Drilling Date:

Started: 4/10/2014

Completed: 4/12/2014

Diameter of Hole:

Diameter: 8.25 in From Surface To 20 ft

Drilling Method:

**Hollow Stem Auger** 

Borehole Completion:

Other: 20/40 sand

Annular Seal Data:

1st Interval: From 0 ft to 3 ft with 2 bentonite (#sacks and material)
2nd Interval: From 3 ft to 20 ft with 12 20/40 sand (#sacks and material)

3rd Interval: No Data Method Used: No Data Cemented By: No Data

Distance to Septic Field or other Concentrated Contamination: No Data

Distance to Property Line: No Data Method of Verification: No Data Approved by Variance: No Data

Surface Completion:

Surface Slab Installed

Water Level:

Static level: No Data
Artesian flow: No Data

Packers:

No Data

Plugging Info:

Casing or Cement/Bentonite left in well: No Data

Type Of Pump:

No Data

Well Tests:

No Data

Water Quality:

Type of Water: No Data
Depth of Strata: No Data
Chemical Analysis Made: No

Did the driller knowingly penetrate any strata which contained undesirable

constituents: No

Certification Data:

The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and

resubmittal.

Company Information:

Precision Probe and Drilling 9416 Prestonwood Drive Shreveport , LA 71115

Driller License Number:

Jackie Raines

Registered Driller Apprentice Signature:

No Data

Apprentice Registration Number:

No Data

Comments:

No Data

# IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking number (Tracking #364224) on your written request.

Texas Department of Licensing & Regulation P.O. Box 12157 Austin, TX 78711 (512) 463-7880

#### DESC. & COLOR OF FORMATION MATERIAL

CASING, BLANK PIPE & WELL SCREEN DATA

From (ft) To (ft) Description
0-.5 tan top soil
.5-2.5 orange red tan clay sand
2.5-5 red tan sand silt
5-7 red tan silty sand
7-10 redish to yellow silty sand
10-14.5 yellow silty sand
14.5-16.5 yellow and red clay sand
16.5-20 yellow red silty sand

Dia. New/Used Type 2 New PVC 0-5 casing 2 New PVC 5-20 .010 screen

Setting From/To

Owner:

**EPA Region 6** 

Owner Well #:

MW-12

Address:

1445 Ross Ave. Suite 1200

Grid #:

35-26-8

Well Location:

601 Premier Road Longview, TX 75604

Dallas, TX 75202

Latitude:

32° 30' 00" N

Well County:

Gregg

Longitude:

094° 48' 28" W

Elevation:

358 ft.

GPS Brand Used:

Google Earth

Type of Work:

New Well

Proposed Use:

Monitor

Drilling Date:

Started: 4/9/2014 Completed: 4/12/2014

Diameter of Hole:

Diameter: 8.25 in From Surface To 20 ft

**Drilling Method:** 

**Hollow Stem Auger** 

Borehole Completion:

Other: 20/40 sand

Annular Seal Data:

1st Interval: From 0 ft to 8 ft with 4 bentonite (#sacks and material)
2nd Interval: From 8 ft to 20 ft with 9 20/40 sand (#sacks and material)

3rd Interval: No Data Method Used: No Data Cemented By: No Data

Distance to Septic Field or other Concentrated Contamination: No Data

Distance to Property Line: No Data Method of Verification: No Data Approved by Variance: No Data

Surface Completion:

Surface Slab Installed

Water Level:

Static level: No Data Artesian flow: No Data

Packers:

No Data

Plugging Info:

Casing or Cement/Bentonite left in well: No Data

Type Of Pump:

No Data

Well Tests:

No Data

Water Quality:

Type of Water: No Data
Depth of Strata: No Data
Chemical Analysis Made: No

Did the driller knowingly penetrate any strata which contained undesirable

constituents: No

Certification Data:

The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and

resubmittal.

Company Information:

Precision Probe and Drilling 9416 Prestonwood Drive Shreveport , LA 71115

Driller License Number:

Jackie Raines

Registered Driller Apprentice Signature:

No Data

Apprentice Registration Number:

No Data

Comments:

No Data

## IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking number (Tracking #364230) on your written request.

Texas Department of Licensing & Regulation P.O. Box 12157 Austin, TX 78711 (512) 463-7880

#### DESC. & COLOR OF FORMATION MATERIAL

#### CASING, BLANK PIPE & WELL SCREEN DATA

Setting From/To

From (ft) To (ft) Description
0-.5 brown top soil
.5-2 orange red gravel sand
2-4.5 orange gray gravel sand clay
4.5-9 orange gray yellow red gravel clay silt
9-10.5 yellow orange gray sandy silt
10.5-11.5 tan silty sand
11.5-12.5 tan silty caly
12.5-13.5 tan silty sand
13.5-15 dark gray and yellow sandy clay
15-17 dark gray silty sand
17-18 dark gray silty sand
18-20dark gray silty sand

Dia. New/Used Type 2 New PVC 0-10 casing 2 New PVC 10-20 .010 screen

Owner:

**EPA Region 6** 

Owner Well #:

MW-13

Address:

1445 Ross Ave. Suite 1200

Dallas , TK 75202

Grid #:

35-34-2

Well Location:

601 Premier Road

Longview, TX 75604

Latitude:

32° 29' 59" N

Well County:

Gregg

Longitude:

094° 48' 22" W

Elevation:

348 ft.

GPS Brand Used:

Google Earth

Type of Work:

New Well

Proposed Use:

Monitor

**Drilling Date:** 

Started: 4/9/2014 Completed: 4/12/2014

Diameter of Hole:

Diameter: 8.25 in From Surface To 20 ft

Drilling Method:

**Hollow Stem Auger** 

Borehole Completion:

Other: 20/40 sand

Annular Seal Data:

1st Interval: From 0 ft to 8 ft with 4 bentonite (#sacks and material)
2nd Interval: From 8 ft to 20 ft with 9 20/40 sand (#sacks and material)

3rd Interval: No Data Method Used: No Data Cemented By: No Data

Distance to Septic Field or other Concentrated Contamination: No Data

Distance to Property Line: No Data Method of Verification: No Data Approved by Variance: No Data

Surface Completion:

Surface Slab Installed

Water Level:

Static level: No Data
Artesian flow: No Data

Packers:

No Data

Plugging Info:

Casing or Cement/Bentonite left in well: No Data

Type Of Pump:

No Data

Well Tests:

No Data

Water Quality:

Type of Water: No Data Depth of Strata: No Data Chemical Analysis Made: No

Did the driller knowingly penetrate any strata which contained undesirable

constituents: No

Certification Data:

The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and

resubmittal.

Company Information:

Precision Probe and Drilling 9416 Prestonwood Drive Shreveport, LA 71115

Driller License Number:

Jackie Raines

Registered Driller Apprention Signature:

No Data

Apprentice Registration Number:

No Data

Comments:

No Data

# IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking number (Tracking #364231) on your written request.

Texas Department of Licensing & Regulation P.O. Box 12157 Austin, TX 78711 (512) 463-7880

#### DESC. & COLOR OF FORMATION MATERIAL

CASING, BLANK PIPE & WELL SCREEN DATA

From (ft) To (ft) Description
0-2 brown top soil
2-3.5 Tan clayey silt
3.5-7orange and yellow sandy clay
7-9.5 red orange clay sandy silt
9.5-12.5 red orange sandy clay
12.5-17.5 dark gray clayey sandy silt
17.5-20 dark gray sandy silt

Dia. New/Used Type 2 New PVC 0-10 casing 2 New PVC 10-20 .010 screen Setting From/To

STATE OF TEXAS WELL REPORT for Tracking #364234 Owner Well #: MW-14 EPA Region 6 35-26-8 Grid #: 1445 Ross Ave. Suite 1200 Dallas, TX 75202 Latitude: 32° 30' 02" N 601 Premier Road Longview, TX 75604 094° 48' 22" W Longitude: Gregg GPS Brand Used: Google Earth 352 ft.

Drilling Date:

Type of Work:

**New Well** 

Owner:

Address:

Well Location:

Well County:

Elevation:

Started: 4/9/2014

Completed: 4/11/2014

Diameter of Hole:

Diameter: 8.25 in From Surface To 20 ft

Drilling Method:

**Hollow Stem Auger** 

Borehole Completion:

Other: 20/40 sand

Annular Seal Data:

1st Interval: From 0 ft to 8 ft with 4 bentonite (#sacks and material)
2nd Interval: From 8 ft to 20 ft with 9 20/40 sand (#sacks and material)

Proposed Use:

Monitor

3rd Interval: No Data Method Used: No Data Cemented By: No Data

Distance to Septic Field or other Concentrated Contamination: No Data

Distance to Property Line: No Data Method of Verification: No Data Approved by Variance: No Data

Surface Completion:

Surface Slab Installed

Water Level:

Static level: No Data
Artesian flow: No Data

Packers:

No Data

Plugging Info:

Casing or Cement/Bentonite left in well: No Data

Type Of Pump:

No Data

Well Tests:

No Data

Water Quality:

Type of Water: No Data Depth of Strata: No Data Chemical Analysis Made: No

Did the driller knowingly penetrate any strata which contained undesirable

constituents: No

Certification Data:

The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and

resubmittal.

Company Information:

Precision Probe and Drilling 9416 Prestonwood Drive Shreveport, LA 71115

Driller License Number:

54661

Well Report: Tracking #:364234

Licensed Well Driller Signature:

Jackie Raines

Registered Driller Apprentice Signature:

No Data

Apprentice Registration Number:

No Data

Comments:

No Data

# IMPORTANT NOTICIE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking number (Tracking #364234) on your written request.

Texas Department of Licensing & Regulation P.O. Box 12157
Austin, TX 78711
(512) 463-7880

### DESC. & COLOR OF FORMATION MATERIAL

CASING, BLANK PIPE & WELL SCREEN DATA

From (ft) To (ft) Description
0-.5 brown top soil
.5-2 red gray clayey sand
2-7 red gray sandy clay
7-10.5 orange gray yellow clay silt
10.5-12 tan silty sand
12-12.5 yellow gray sandy clay
12.5-13 yellow gray gravel clay sand
13-14 yellow silty sand
14-17.5 dark gray silty clay
17.5-20dark gray sandy sills

Dia. New/Used Type Setting From/To 2 New PVC 0-10 casing

2 New PVC 10-20 .010 screen

STATE OF TEXAS WELL REPORT for Tracking #364236

Owner:

EPA Region 6

Owner Well #:

MW-15

Address:

1445 Ross Ave. Suite 1200

Grid #:

35-26-8

Well Location:

Dallas , TX 75202 601 Premier Road

Longview, TX 75604

Latitude:

32° 30' 09" N

Well County:

Gregg

Longitude:

094° 48' 24" W

Elevation:

352 ft.

GPS Brand Used:

Google Earth

Type of Work:

New Well

Proposed Use:

Monitor

Drilling Date:

Started: 4/8/2014

Completed: 4/11/2014

Diameter of Hole:

Diameter: 8.25 in From Surface To 18 ft

Drilling Method:

**Hollow Stem Auger** 

Borehole Completion:

Other: 20/40 sand

Annular Seal Data:

1st Interval: From 0 ft to 1 ft with 1 bentonite (#sacks and material) 2nd Interval: From 1 ft to 18 ft with 13 20/40 sand (#sacks and material)

3rd Interval: No Data Method Used: No Data Cemented By: No Data

Distance to Septic Field or other Concentrated Contamination: No Data

Distance to Property Line: No Data Method of Verification: No Data Approved by Variance: No Data

Surface Completion:

Surface Slab Installed

Water Level:

Static level: No Data
Artesian flow: No Data

Packers:

No Data

Plugging Info:

Casing or Cement/Bentonite left in well: No Data

Type Of Pump:

No Data

Well Tests:

No Data

Water Quality:

Type of Water: No Data Depth of Strata: No Data Chemical Analysis Made: No

Did the driller knowingly penetrate any strata which contained undesirable

constituents: No

Certification Data:

The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and

resubmittal.

Company Information:

Precision Probe and Drilling 9416 Prestonwood Drive Shreveport, LA 71115

Driller License Number:

54661

Page 2 of 2

Well Report: Tracking #:364236

Licensed Well Driller Signature:

**Jackie Raines** 

Registered Driller Apprentice Signature:

No Data

Apprentice Registration Number:

No Data

Comments:

No Data

## IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking number (Tracking #364236) on your written request.

Texas Department of Licensing & Regulation P.O. Box 12157 Austin, TX 78711 (512) 463-7880

#### DESC. & COLOR OF FORMATION MATERIAL

CASING, BLANK PIPE & WELL SCREEN DATA

From (ft) To (ft) Description
0-1 orange clayey sand
1-2 brown sandy clay
2-5 brown clayey sand
5-7 gray black yellow and red clay
7-7.5 gray clay sand
7.5-9 gray yellow sandy clay
9-9.5 yellow clayey sand
9.5-12 dark gray clay
12-13.5 brown clayey sand
13.5-14 red clayey sand
14-15 brown sand
15-16.5 brown silty sand
16.5-20 dark gray sandy clay

Dia. New/Used Type Setting From/To 2 New PVC 0-3 casing 2 New PVC 3-18 .010 screen

STATE OF TEXAS WELL REPORT for Tracking #364239 MW-16 Owner Well #: **EPA Region 6** 35-26-8 Grid #: 1445 Ross Ave. Suite 1200 Dallas, TX 75202 32° 30' 07" N Latitude: 601 Premier Road Longview, TX 75604 094° 48' 26" W Longitude: Gregg Google Earth GPS Brand Used: 360 ft.

**Drilling Date:** 

Type of Work:

Owner:

Address:

Well Location:

Well County:

Elevation:

Started: 4/8/2014

Completed: 4/11/2014

Diameter of Hole:

**New Well** 

Diameter: 8.25 in From Surface To 20 ft

Drilling Method:

**Hollow Stem Auger** 

Borehole Completion:

Other: 20/40 sand

Annular Seal Data:

1st Interval: From 0 ft to 8 ft with 4 bentonite (#sacks and material) 2nd Interval: From 8 ft to 20 ft with 9 20/40 sand (#sacks and material)

Proposed Use:

Monitor

and Interval: No Data

Method Used: Gravity
Cemented By: Jackie Raines

Distance to Septic Field or other Concentrated Contamination: No Data

Distance to Property Line: No Data Method of Verification: No Data Approved by Variance: No Data

Surface Completion:

Surface Slab Installed

Water Level:

Static level: No Data Artesian flow: No Data

Packers:

No Data

Plugging Info:

Casing or Cement/Bentonite left in well: No Data

Type Of Pump:

No Data

Well Tests:

No Data

Water Quality:

Type of Water: **No Data**Depth of Strata: **No Data**Chemical Analysis Made: **No** 

Did the driller knowingly penetrate any strata which contained undesirable

constituents: No

Certification Data:

The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and

resubmittal.

Company Information:

Precision Probe and Drilling 9416 Prestonwood Drive Shreveport, LA 71115

Driller License Number:

54661

Page 2 of 2

Well Report: Tracking #:364239

Licensed Well Driller Signature:

Jackie Raines

Registered Driller Apprentice Signature:

No Data

Apprentice Registration Number:

No Data

Comments:

No Data

## IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking number (Tracking #364239) on your written request.

Texas Department of Licensing & Regulation P.O. Box 12157 Austin, TX 78711 (512) 463-7880

### DESC. & COLOR OF FORWATION MATERIAL

CASING, BLANK PIPE & WELL SCREEN DATA

From (ft) To (ft) Description
0-2.5 brown and black silty sand
2.5-5 orange yellow sandy clay
5-7 gray and pink sandy clay
7-7.5 yellow brown gravel
7.5-10 gray yellow sand clay
10-15 brown sandy clay
15-17 tan sand
17-20 dark gray silty caly

Dia. New/Used Type
2 New PVC 0-10 casing
2 New PVC 10-20 .010 screen

Setting From/To

STATE OF TEXAS WELL REPORT for Tracking #364242 Owner Well #: MW-17 EPA Region 6 Owner: 35-26-8 Grid #: 1445 Ross Ave. Suite 1200 Address: Dallas, TX 75202 32° 30' 05" N Latitude: 601 Premier Road Well Location: Longview, TX 75604 094° 48' 30" W Longitude: Well County: Gregg Google Earth GPS Brand Used: 364 ft. Elevation:

**Drilling Date:** 

Type of Work:

Started: 4/8/2014

Completed: 4/11/2014

Diameter of Hole:

Diameter: 8.25 in From Surface To 20 ft

Drilling Method:

**Hollow Stem Auger** 

Borehole Completion:

**New Well** 

Other: 20/40 sand

Annular Seal Data:

1st Interval: From 0 ft to 8 ft with 4 bentonite (#sacks and material) 2nd Interval: From 8 ft to 20 ft with 9 20/40 sand (#sacks and material)

Proposed Use:

Monitor

3rd Interval: No Data Method Used: Gravity Cemented By: Jackie Raines

Distance to Septic Field or other Concentrated Contamination: No Data

Distance to Property Line: No Data Method of Verification: No Data Approved by Variance: No Data

Surface Completion:

Surface Slab Installed

Water Level:

Static level: No Data Artesian flow: No Data

Packers:

No Data

Plugging Info:

Casing or Cement/Bentonite left in well: No Data

Type Of Pump:

No Data

Well Tests:

No Data

Water Quality:

Type of Water: No Data Depth of Strata: No Data

Chemical Analysis Made: No

Did the driller knowingly penetrate any strata which contained undesirable

constituents: No

Certification Data:

The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and

resubmittal.

Company Information:

Precision Probe and Drilling 9416 Prestonwood Drive Shreveport, LA 71115

Driller License Number:

54661

Well Report: Tracking #:364242 Page 2 of 2

Licensed Well Driller Signature:

**Jackie Raines** 

Registered Driller Apprentice Signature:

No Data

Apprentice Registration Number:

No Data

Comments:

No Data

## IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Triacking number (Tracking #364242) on your written request.

Texas Department of Licensing & Regulation P.O. Box 12157
Austin, TX 78711
(512) 463-7880

### DESC. & COLOR OF FORMATION MATERIAL

CASING, BLANK PIPE & WELL SCREEN DATA

From (ft) To (ft) Description
0-2 tan gravely silty sand
2-5 orange tan clayey sand
5-6.5 orange and tan clayey sand
6.5-7.5 gray orange sandy slay
7.5-15 gray yellow clay silt
15-16.5 dark gray silty caly
16.5-17.5 dark gray silty sand
17.5-20 dark gray sandy clayey silt

Dia. New/Used Type
2 New PVC 0-10 casing
2 New PVC 10-20 .010 screen

Setting From/To

Well Report: Tracking #:364243

Licensed Well Driller Signature:

Jackie Raines

Registered Driller Apprentice Signature:

No Data

Apprentice Registration Number:

No Data

Comments:

No Data

# IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking number (Tracking #364243) on your written request.

Texas Department of Licensing & Regulation P.O. Box 12157
Austin, TX 78711
(512) 463-7880

### DESC. & COLOR OF FORMATION MATERIAL

CASING, BLANK PIPE & WELL SCREEN DATA

From (ft) To (ft) Description
0-1.5 brown sandy silt
1.5-7 tan silty sand
7-8 brown sandy clay
8-8.5 iron stone gravel
8.5-10.5 red gray yellow sandy clay
10.5-12.5 brown silty sand
12.5-13.5 gray and yellow sandy silt
13.5-14 brown caly
14-17 dark gray silty caly
17-18.5 dark gray sandy silt
18.5-19.5 dark gray sandy silt
19.5-20 dark gray silty caly

Dia. New/Used Type Setting From/To 2 New PVC 0-10 casing

2 New PVC 10-20 .010 screen

Well Report: Tracking #:364243

STATE OF TEXAS WELL REPORT for Tracking #364243

Owner:

EPA Region 6

Owner Well #:

MW-18

Address:

1445 Ross Ave. Suite 1200

Grid #:

35-26-8

Well Location:

Dallas, TX 75202 601 Premier Road Longview, TX 75604

Latitude:

32° 30' 02" N

Well County:

Gregg

Longitude:

094° 48' 32" W

Elevation:

364 ft.

GPS Brand Used:

Google Earth

Type of Work:

**New Well** 

Proposed Use:

Monitor

**Drilling Date:** 

Started: 4/9/2014

Completed: 4/11/2014

Diameter of Hole:

Diameter: 8.25 in From Surface To 20 ft

Drilling Method:

**Hollow Stem Auger** 

Borehole Completion:

Other: 20/40 sand

Annular Seal Data:

1st Interval: From 0 ft to 8 ft with 4 bentonite (#sacks and material) 2nd Interval: From 8 ft to 20 ft with 9 20/40 sand (#sacks and material)

3rd Interval: No Data Method Used: Gravity Cemented By: Jackie Raines

Distance to Septic Field or other Concentrated Contamination: No Data

Distance to Property Line: No Data Method of Verification: No Data Approved by Variance: No Data

Surface Completion:

Surface Slab Installed

Water Level:

Static level: No Data Artesian flow: No Data

Packers:

No Data

Plugging Info:

Casing or Cement/Bentonite left in well: No Data

Type Of Pump:

No Data

Well Tests:

No Data

Water Quality:

Type of Water: No Data Depth of Strata: No Data

Chemical Analysis Made: No

Did the driller knowingly penetrate any strata which contained undesirable

constituents: No

Certification Data:

The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and

resubmittal.

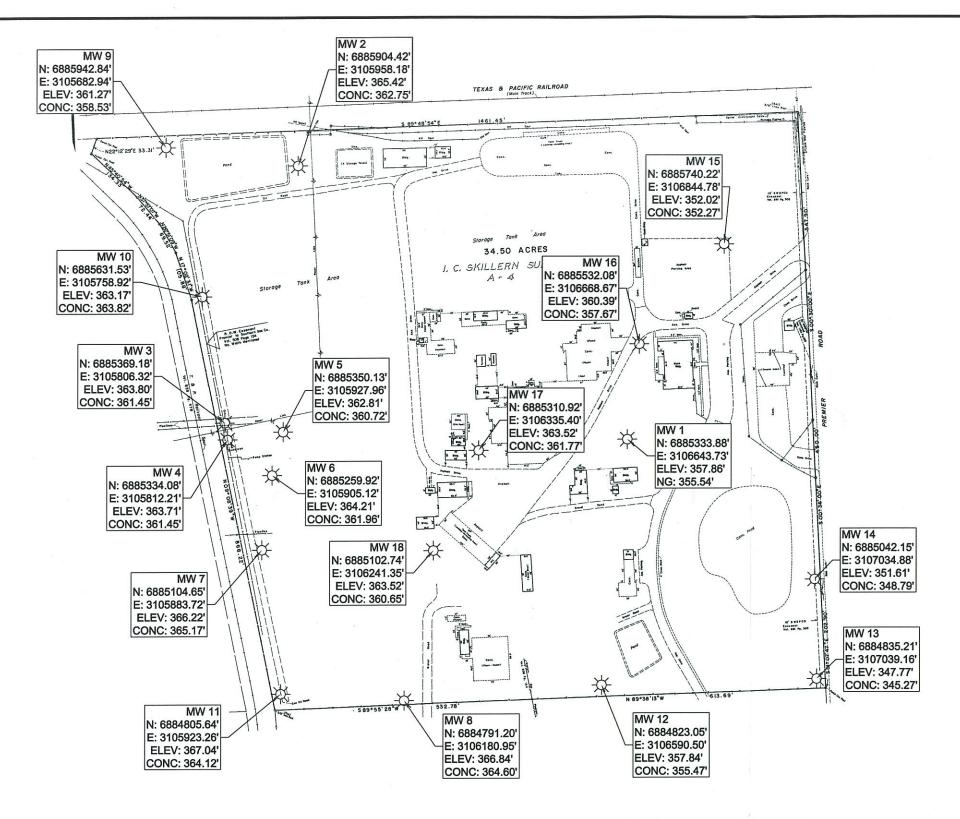
Company Information:

Precision Probe and Drilling 9416 Prestonwood Drive Shreveport, LA 71115

Driller License Number:

54661

# MONITORING WELL SURVEY MAP MW1 THROUGH MW18



## SURVEYORS CERTIFICATION

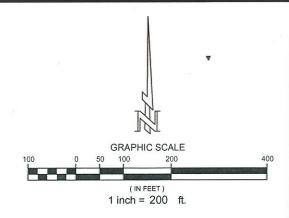
I HEREBY CERTIFY THIS PLAT REFLECTS THE FACTS AS FOUND AT THE TIME OF SAID SURVEY.

TROY MAXWELL PROFESSIONAL LAND SURVEYOR TEXAS REGISTRATION NO. 5585



DATE





#### NOTES

- 1. COORDINATE SYSTEM OF 1983, NORTH CENTRAL ZONE, AND REFERENCED TO THE CITY OF LONGVIEW, 2002 MAPPING AND MONUMENTATION PROJECT HORIZONTAL AND VERTICAL CONTROL NETWORK, ESTABLISHED BY CITY OF LONGVIEW ORDINANCE NO.3124, PASSED AND APPROVED ON MAY 23, 2002.
- 2. DISTANCES SHOWN ARE GRID DISTANCES. TO CONVERT TO SURFACE DISTANCES DIVIDE GRID DISTANCES BY THE SCALE FACTOR: 0.9999330.
- BOUNDARY AND IMPROVEMENTS SHOWN HEREON FOR INFORMATIONAL PURPOSES ONLY AND BASED UPON A HART ENGINEERING JOB #11,481, DATED AUGUST 17, 1988.

MONITORING WELL EXHIBIT LONGVIEW REFINERY GREGG COUNTY, TEXAS



#### **JOHNSON & PACE INCORPORATED**

1201 NW LOOP 281, SUITE 100, LONGVIEW, TEXAS 75604 (903)753-0663 FAX (903)753-8803 WWW.JOHNSONPACE.COM TBPLS #10025400

BOOK 863, PG 60 DRAWN BY: JBR JOB #2892-001

# MONITORING WELL DEVELOPMENT FORMS MW1 THROUGH MW18

Gregg County Refi	nery			Arrived	804					w	ell Num	ber: MW-1
Well Type:	Monitoring											
Well Material: PVC	2"	Well I	ntegrity:	Unl Rusted, no lock								
Well casing monito	oring readings:			Oppm headspace; Oppr	n breathing	zone; Opp	m ground			-		
	63 degrees, cl	loudy, 81% h	uimidity									
	5-10 mph SSV	N	-		-	С	eveloped By:	Kieler/Rain	es			
					\A/\(\(\tau\)	L PURG	INC					_
					WEL	L FURU	JING					804
PURGE DATE:	4/12/14		W	ATER DEPTH/TD:		5.5 1.86 gallo	16.9	97	Date:	4/12/14		Time:
						1.00 galic	1115					Conversion Factors
					Estima	ite 2 gallo	ns gpm					2" sched. 40 = .163 gal./ft.
Purge Time Start	940											2" sched 40 = .617 Liters/ft. 3/8" OD Tubing = .028 ml./ft.
Stop	904	-										1/4" OD Tubing = .015 ml./ft.
Total elapsed	15	minutes										1 Gallon = 3.7854 Liters
	FIFI D F	PARAMETI	FR MF	ASUREMENT			]					
Time of last calibration		7		ge Volume: 2								
Time of	Vol. **	Temp	pН	Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comm	ents (e.g., color, odor)
Measurement	Purged	°C	0.05	(mMhos/cm) 0.540	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)	braumia	sh red/grey silt/fuel odor
851	2	16.10	9.65		29.60	3.09	-77.5					
854	2.2	16.30	9.02	0.589	128.00	3.92	-46.4				clou	ıdy/light grey brown
857	2.3	16.78	8.52	0.625	99.00	3.91	-33.6					clear, fuel smell
859	2.2	16.67	8.59	0.635	17.60	3.79	-37.0					clear, fuel smell
902	2.2	16.60	8.53	0.638	9.54	3.70	-37.7					clear, fuel smell
904	2	16.61	8.53	0.630	6.81	3.60	-34.9					fuel odor
		7										
	12.9	Total Purge	Volume		**Individua	l volumes	not cumulativ	e, in gallons				
			925 WC	=6.71								
					WELL	SAMP	LING					
NOTEO	_							_				
NOTES:								_				
935 Decon pump and v	water levels; th	row away tub	oing/hose	-				- 1				
Decon with pump Alcono	x wash, potable	e rinse/pump	and DI w	ater rinse								
and drain at Decon									Sam	ple Date:	N/A	
930 depart site												Start:
									0	ala Tiasa.		
										ple Time:	niah timan anlu	Finish:  if sample times are greater than 15 minutes.
		1		T			T					
Control No.		Volume/0	Cont.	Analysis Requested	d		Preserv.	Sample	e Location II	)	QC?	Comments
									•			
	QUALITY COI						1	Additional o	omments:			
TYPE		SAMPL	E ID		C-of-C							
Ambient Blank				AB		•						
Duplicate				FD								
Equipment Blank				EB								
Trip Blank				ТВ			F	Recorded by:	Kieler			

						CVCIO	official Da	ia Oncei				
Gregg County Re	-			Arrived	1118					W	ell Num	ber: MW-2
Well Type:	Monitoring											
Well Material: PVC	2" dia pvc stic	kup MWWell I	Integrity:	Unlocked but closed	l, cap in plac	е						
Well casing mor	nitoring reading	ıs:		0ppm multiRae 3000	0, 1ppm duri	ng purge						
Weather:	Sunny; 68 deg	grees										
	22% humidity,	, WNW 14			<del>-</del>	D	eveloped By:	Walden/Re	ctenwald			
					W	ELL PUF	RGING					
					•••		tonto					1555
PURGE DATE:	4/7/14		WA.	TER DEPTH/TD:	(ft. BTOC)		18.8 me 9.49L/2.57		Date:	4/7/14		Time:
	mp - already de					vven volu	IIIC 3.43LIZ.37	gai	·			Conversion Factors  2" sched. 40 = .163 gal./ft.  2" sched 40 = .617 Liters/ft.  3/8" OD Tubing = .028 ml./ft.  1/4" OD Tubing = .015 ml./ft.  1 Gallon = 3.7854 Liters
Total elapsed		-		Water dep	th/TD after p	ourge 17.0	)1	4.9				1 Gallott = 3.7654 Eiters
	FIELD F	PARAMET		SUREMENT								
Time of last calibrati				ge Volume 2.57				2.				
Time of Measurement	Vol. ** Purged	Temp °C	pН	Cond. (ATC) (mMhos/cm)	Turbidity mg/L	D. O. (mg/L)	ORP (eV)	Fe <sup>2+</sup> (mg/L)	Sulfate (mg/L)	Nitrite (mg/L)	Comm	nents (e.g., color, odor)
1600	19.0L	-	_	-	- Ing/L	(IIIg/L) *	-	(IIIg/L)	(IIIg/L)	(IIIg/L)	dark ar	ey, oil and sewage odor
1600			-		-		-	-	-	-	uaik gi	-
1612	9.0 L	16.94	6.43	0.780	15.7	2.27	-71.2	-	-	-		slight sheen
1620	9.0 L	16.55	6.52	0.723	15.8	14.50	-104.9	-	-	-		slight sheen
1624	4.5 L	16.74	6.52	0.403	29.4	10.12	-92.9	-	-	-		slight sheen
1630	9.0 L	17.43	6.52	0.378	30.0	109.90	-100.4	-	-	-	slight s	heen, started to go dirty
1634	9.0 L	17.38	6.47	0.352	28.9	117.70	-83.6	-	-	-		slight sheen
								-	-	-		
								-	-	-		
	59.5 L	Total Purge	e Volume		**Individua	l volumes	, not cumulativ	e, in gallons		* not valid	due to pu	rge rate
	6.21 volumes	1										
					WEI	LL SAN	IPLING					
NOTES:	_							_				
NOTES.								=				
								- 1				
									Samı	ole Date:	N/A	
	=											0
												Start:
									Samp	ole Time:		Finish:
									Inc	dicate Start/Fir	nish times only	if sample times are greater than 15 minutes.
Control No.		Volume/	Cont.	Analysis Reques	sted		Preserv.	Samp	e Location ID	)	QC?	Comments
										·		
TVDE	QUALITY COI				0 -4 0		1	Additional of	omments:			
TYPE		SAMPL	ב וט	AD	C-of-C		1					<del>_</del>
Ambient Blank				AB	-	-		-				
Duplicate				FD	-	-						
Equipment Blank				EB	-	-		ecorded by	Pectenuold			
Trip Blank				TB	-	=-	R	ecoraea by:	Rectenwald			

Gregg County Re	efinery									W	ell Num	ber: M	W-3
Well Type:	Monitor									MW3 200	086M report		
Well Material: PVC	2"	Well I	ntegrity:	No lock, zip tie casii	ng rusted					whale pu	mp model \	VP 6012	
Well casing mor	nitoring reading	s: or	ppm brea	thing zone; 1.2ppm v	vell head; 0p	om ground	d						
Weather:	Sunny, 60 deg		umidity		_								
	WSW 14 mph				_	D	eveloped By:	Kieler/Wald	den				
					WE	ELL PUF	RGING						
PURGE DATE:	4/11/14		WA	TER DEPTH/TD	(ft. BTOC): 15.62-5.15		15.62 63=1.7 gal		Date:	4/11/14		Conve	sion Factors
Purge Time Start Stop Total elapsed	925	* wth stopps	age	*pump stopped at e	ach vol.							2" sched 3/8" OD Tub 1/4" OD Tub	. 40 = .163 gal./ft. 1 40 = .617 Liters/ft. bing = .028 ml./ft. bing = .015 ml./ft. llon = 3.7854 Liters
	FIELD F	AD AMETI	ED ME	SUREMENT			1						
Time of last calibration		AKAMET	-	ge Volum: 1.7	•								
Time of	Vol. **	Temp	pН	Cond. (ATC)	Turbidity	*D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comm	ents (e.g., co	or, odor)
Measurement	Purged	°C	0.40	(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)		. al	E-ba 6 - 1 - d -
857	1.9	16.83	8.10	0.793	-	111.4	-30.3	-	-	-	neavily sine	ed/med color/s	
900	1.7	16.27	6.25	1.506	55.70	34.2*	-31.6	-	-	-		Grey slightly	silty/no odor
903	1.7	16.66	7.08	0.867	100.60	109.0	-27.7	-	-	-		Clearer/	no odor
907	0.7	DRY	-	-	-	-	-	-	-	-			
913	0.5	17.04	7.40	0.986	35.40	108.8	-6.2	-	-	-	N	lore clear/no d	odor
919	0.5	DRY	-	-	-	-	-	-	-	-			
925	0.5	16.67	8.38	1.522	28.60	44.3	-29.4	-	-	-	Мо	re clear/slight	odor
				* wrong D	O measured			-	-	-			
	7.5	Total Purge	Volume	_		volumes	l , not cumulativ	e in gallons					
9.32 DTW = 12.		[		Depart we			,	-, g					
3.32 BTW - 12.	<u> </u>			Ворин же			ADL ING						
					VVE	LL SAN	IPLING						
Decon water level indic	cator, throw awa	ay hose/tubir	ng					_					
Will decon both pump	after next well N	ЛW-4						_					
									Sam	ple Date:			
	='												
	-											St.	art:
	=												
										ple Time:		Fini	-
		1		I					In	dicate Start/F	inish times only		e greater than 15 minutes.
Control No.		Volume/0	Cont.	Analysis Reque	sted		Preserv.	Sample	e Location IE	)	QC?	-	Comments
								1					
				<u> </u>			1						
	QUALITY CON	NTROL SAM	IPLES					Additional c	omments:				
TYPE	·	SAMPL	E ID		C-of-C							-	
Ambient Blank				AB						-		-	
Duplicate				FD									
Equipment Blank				EB									
Trip Blank				ТВ			R	Recorded by:	Kieler				

Gregg County Re	finery									W	ell Num	ber: MW-4	
Well Type:	М												
Well Material: PVC	2"	Well I	ntegrity:	New install, new page	d					whale pur	mp model \	WP 6012	
Well casing mor	nitoring reading	as: o	ppm brea	the zone; 0ppm well;	Oppm groun	nd							
_	Sunny, 50 deg	_											
	wind	, ,			-		Sampled By:	Kieler/Wald	den				
					=								
					WI	ELL PUF	RGING						
PURGE DATE:	4/11/14		WA	TER DEPTH/TD:		.163 = 1.2	15.9 28 gal		Date:	4/11/14		Time: 1000	
Purge Time Start Stop	1008 1023	-			2.5 purge	rate estima	ated					Conversion Factors  2" sched. 40 = .163 ga  2" sched 40 = .617 Lit  3/8" OD Tubing = .028 ml  1/4" OD Tubing = .015 ml	ers/ft. ./ft.
Total elapsed	15	minutes		*pump stopped at e	ach vol.							1 Gallon = 3.7854	Liters
	FIELD F		ED MEA	CUDEMENT			1						
Time of last calibration			_	SUREMENT rge Volum 1.2									
Time of	Vol. **	Temp	рН	Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comm	ents (e.g., color, odor)	
Measurement	Purged	°C		(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)			
1010	1.3	17.33	7.97	3.220	58.6	40.2	71.9	-	-	-	S	ulphur odor/black	
1016	1.4	16.34	7.76	3.049	21.4	63.1	63.6	-	-	-	Le	ess odor/light grey	
1019	1.4	16.66	7.70	1.652	21.1	107.9	59.3	-	-	-		light grey	
1022	1.4	10.95	7.76	3.102	12.8	91.2	35.0	-	-	-		light grey	
1023	0.1	-	-	DRY	-	-	-	-	-	-		N/A	
1025	DRY	-	-	DRY	-	-	-	-	-	-		N/A	
	5.6	Total Purge	Volume		**Individua	l volumes	, not cumulativ	e, in gallons					
		1		1036 W/D	9.7 BTOC			-					
				1000 112		LL SAN	IDI ING						
Decon water level indic	eator and two n	umne			***	LL OAN	ii Liito						
	-	•						-					
Alconox wash through	pump - potable	e water rinse	through	pump - DI water rinse	and drain			_					
									Sam	ple Date:	N/A		
	-												
	-												
												Start:	
									Sami	ole Time:		Finish:	
									Indi	cate Start/Fill	sir times only	if sample times are greater than 15 mi	illutes.
Control No.		Volume/	Cont.	Analysis Reque	sted		Preserv.	Sampl	e Location II	)	QC?	Comments	
				II.			I .						
7/05	QUALITY COI				0.10		]	Additional c	omments:				
TYPE		SAMPL	Ŀ ID	45	C-of-C			-					
Ambient Blank				_AB									
Duplicate				FD									
Equipment Blank				EB									
Trip Blank				ТВ		:	R	ecorded by:	Kieler				

Gregg County R	efinery			Arrived	208					W	ell Numbe	r:	MW-5	
Well Type:	MW													
Well Material: PVC	2"	Well I	Integrity:	Surface water cove	ring well pac	l; water in	between riser	and protecti	ve casing					
Well casing mo	onitoring reading	gs:		211: breathing zone	e: 0.0ppm; w	ellhead 20	).2ppm; groun	id 0.0ppm						-
Weather:	Sunny; 70 deg	grees												-
		-			<del>_</del>	D	eveloped By:	Kieler/Wald	den					
	-				10/1	ELL PU	CINC	-						
					VV	ELL PUI	KGING							
PURGE DATE:	4/11/14		WA.	TER DEPTH/TD			14.5 w/ s	sediment	Date:	4/11/14	Tir	ne:	220	
			hard	bottom	14.5-2.35	5= 12.15x. 1.98 gal	163= 1.98						nversion Factor	·e
			naru	bottom		1.50 gai							thed. 40 = .163 g	
Purge Time						Purge rat	e: 2.2 gal						ched 40 = .617 l	
Start Stop	226 305	-											Tubing = .028 r Tubing = .015 r	
Total elapsed		minutes									'		1 Gallon = 3.785	
		-												
Time of last calibra		PARAMET	_	SUREMENT ge Volum 1.9	1									
Time of	Vol. **	Temp	pH	Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Commen	ts (e.g	., color, odor)	
Measurement	Purged	°C		(mMhos/cm)	mg/L	%	(eV)	(mg/L)	(mg/L)	(mg/L)				
2.28	3.2	18.82	8.45	1.492	53.8	137.2	-32.5	-	-	-	Light gr	ey/hea	vy fuel odor	
2.33	2.2	17.56	10.26	1.591	170.0	55.2	-43.1	-	-	-	he	avy fu	el odor	
2.40 (dry)	1.5	17.49	9.92	1.485	34.4	14.8	-39.5	_	_		fuel	ndor/m	ore clear	
								_						
2.53	2.2	17.28	9.69	1.511	22.0	31.9	-40.8	-	-	-	fuel o	odor/m	ore clear	
2.55 (dry)	2.0	-	-	-	-	-	-	-	•	-	fuel	odor/m	ore clear	
3.03 (dry)	2.0	18.10	8.88	1.658	22.8	118.9	-33.2	-	-	-	fuel o	odor/m	ore clear	
		1	II.											
	11.0	T-4-1 B	- \/-\		**!									
	11.3	Total Purge	e volume		Individua	ii voiumes	, not cumulativ	ve, in gallons						
					WE	LL SAN	IPLING							
Decon pumped	d - Alconox and	potable rins	e through	pump, DI rinse and	pump drain									
	_							_						
	_							- 1						
	_								Sam	ple Date:	N/A			-
													Start:	
	_								Sam	ple Time:			Finish:	-
											sh times only if sa	mnle tim	es are greater than 15	minutes
				T			1_							
Control No.		Volume/	Cont.	Analysis Reque	ested		Preserv.	Sampl	e Location II	)	QC?		Comments	
	QUALITY COI	NTROL SAM	MPLES					Additional c	omments:					
TYPE		SAMPL	E ID		C-of-C		1							
				ΔR			1							
Ambient Blank				AB	-	-		-						
Duplicate				FD		-								
Equipment Blank				_EB	-	-		ocorded b	Waldes					
Trip Blank				ТВ		-	"	Recorded by:	vvaluen					

Gregg County Re	efinery			Arrived	1220					W	ell Num	ber:	MW-6	
Well Type:	Monitoring													
Well Material: PVC			ntegrity:	No lock, ziptie, ruste						Purge N	Method: W	haley pur	mp #WP6012 si	uper purge
Well casing mo		_		Breathing Zone 0.0	ppm; wellhea	id 0.2ppm;	ground 0.0pp	m						_
Weather:	Sunny; 68 deg				_	_								
	22% humidity	, WNW 14			=		eveloped By:	Kieler/Wal	den					
					WE	ELL PUF	RGING							
PURGE DATE:	4/11/14		WA	TER DEPTH/TD	: (ft. BTOC)	5.22	15.3	34	Date:	4/11/14		Time:	1229	
Purge Time Start Stop Total elapsed	1317	*stop between minutes		olume SUREMENT		1.65 gal 1.7 gal pe	10.12 er minute purg	e rate				2" s 2" s 3/8" OI 1/4" OI	ched. 40 = .163 sched 40 = .617 D Tubing = .028 D Tubing = .018 1 Gallon = 3.78	3 gal./ft. 7 Liters/ft. 3 ml./ft. 5 ml./ft.
Time of last calibrat				ge Volum 1.65	;									
Time of Measurement	Vol. ** Purged	Temp °C	pН	Cond. (ATC) (mMhos/cm)	Turbidity mg/L	D. O. (mg/L)	ORP (eV)	Fe <sup>2+</sup> (mg/L)	Sulfate (mg/L)	Nitrite (mg/L)	Comn	nents (e.g	g., color, odor)	
1237	1.7	18.16	9.17	1.222	38.3	51.4	-30.6				Slight	ly clear, g	grey, fuel odor	
1239	1.5	DRY	-	-	-	-	=-	-	-	-	more	turbid, gr	rey, fuel odor	
1242	0.2	18.01	9.29	1.492	180.0	56.0	-19.7	-	-	-		trubid lig	ht grey	
1242	0.1	DRY	_	-	_	-		-	_	-				
1253	1.6	DRY	-	-	_	-	-	_	-	-				
1255	0.2	DRY	_	-	-	-		-	-	-		fuel o	ndor	
1255 (purged again)	0.2	17.51		0.910				_				idei e	, doi	
			9.01		38.2	31.0	-13.9		-					
1307	1.5	19.75	9.88	0.818	36.0	67.1	-29.9	-	-	-				
								-	-	-	li	ght odor/	fuel odor	
		-						-	-	-				
	5.3	Total Purge	e Volume		**Individua	l volumes	, not cumulativ	e, in gallons	s					
Total	6.8	PURGED A	AGAIN DF	RY.		1317 WI	D=8.75 BTOC							
					WEI	LL SAN	IPLING							
NOTES:	_				_			_						
Decon pumps - throw a	away tuhing: De	econ water le	evel indica	ator: alconov wash ru	ın through nu	ımn notah	ale rinse run th	rough numn	DI rinse and	d numn dra	in			
Decompanips - thow t	away tabing, De	boon water it	SVCI IIIGIGE	itor, dicoriox washire	an anough pu	imp, potac	inc misc run ar	–						1
	-								Sam	ple Date:	N/A			-
													Start:	_
									Sam	ple Time:			Finish:	
									Indic	ate Start/Finis	h times only i	f sample tim	es are greater than 1	15 minutes.
Control No.		Volume/	Cont.	Analysis Reque	ested		Preserv.	Samp	le Location II	ס	QC?		Comments	3
						-					-		-	
	QUALITY CO	NTROI SAM	/PLFS					Additional of	comments.					
TYPE	QUALITI OU	SAMPL			C-of-C			, additional C	Johnnettia.					
Ambient Blank		_, um L		AB										
Duplicate				FD.	-	:								
Equipment Blank				EB										
Trip Blank				TB	-		R	tecorded by:	Kieler					
I				•			1							_

Gregg County Re	finery			Arrived	1118					W	ell Num	_	MW-7	
Well Type:	Monitoring										C#7 on v	vell casin	g (MW-6 2008 GV	/ report)
Well Material: PVC	2"	Well I	ntegrity:	Ziptied, not locked, re							Meth	od: Whal	ey pump #NP6012	<b>!</b>
Well casing mor		_		o.oppm breathe zone	e; 0.0ppm w	ellhead; 0.	0ppm ground							
Weather:	Sunny; 68 deg	rees, WSW	16 mph		-	_		16.1						
	50% humidity				-	D	eveloped By:	Kieler						
					WE	ELL PUF	GING							
PURGE DATE:	4/11/14		WA	TER DEPTH/TD:	(ft. BTOC):	7	22.9	91	Date:	4/11/14		Time:	1125	
	1149	*stop at eac minutes				2.593 gal						2" so 2" s 3/8" OE 1/4" OE	nversion Factors ched. 40 = .163 ga ched 40 = .617 Li D Tubing = .028 m D Tubing = .015 m 1 Gallon = 3.7854	al./ft. ters/ft. il./ft. il./ft.
Time of last calibrati		ARAMEII	-	ge Volum: 2.5										
Time of Measurement	Vol. ** Purged	Temp °C	pН	Cond. (ATC) (mMhos/cm)	Turbidity mg/L	D. O. (mg/L)	ORP (eV)	Fe <sup>2+</sup> (mg/L)	Sulfate (mg/L)	Nitrite (mg/L)	Comm	ents (e.g	., color, odor)	
1132	2.8	18.39	8.53	0.322	*	46.00	7.3	(IIIg/L)	(IIIg/L)	(IIIg/L) -		Black, n	o odor	
1134	2.6	17.68	8.53	0.327	19.80	5.56	8.5	-	-	-	mo	ore clear,	light grey	
1136	2.6	17.54	5.60	0.529	10.10	102.20	26.7	-	-	-		clear, no	o odor	
1139	2.6	17.57	7.92	0.332	7.95	66.10	33.3	-	-	-		clear, no	o odor	
1143	2.6	18.15	8.58	0.328	17.50	47.60	-6.0	-	-	-		clear, no	o odor	
1149	2.6	18.05	8.61	0.332	18.100	46.70	-	-	-	-		Misse	d ORP reading	
								-	-	-				
* out of range	15.8	Total Purge	Volume	WL=8.22 E			not cumulation		-	-				
					WEL	L SAM	PLING							
NOTES:														
Decon water level indic with second pump.	cator and will de	con pump fo	ollowing N	/IW-7 development				=						
								_	Sam	ple Date:	N/A			
													Start:	
									Sam	ple Time:			Finish:	
									Ind	icate Start/Fin	sh times only	if sample tim	es are greater than 15 n	ninutes.
Control No.		Volume/0	Cont.	Analysis Reques	sted		Preserv.	Sampl	e Location ID	)	QC?		Comments	
	QUALITY CON	NTROL SAM	IPLES					Additional of	comments:					
TYPE		SAMPL	E ID		C-of-C									
Ambient Blank				AB										
Duplicate				FD										
Equipment Blank				EB			_	laaaud I b	Vieler					
Trip Blank				TB			R	ecorded by:	vieiet					

Gregg County Re	efinery			Arrived	4:30					W	ell Num	ber: MW-8
Well Type:	MW											
Well Material: PVC	2"	Well I	ntegrity:	Rusrted casing, unloa	cked, no wa	iter in casi	ng, pad not cra	ncked				
Well casing mor	nitoring readings	s: 4:	29 breathi	ng zone 0.0ppm; well	head 0.0ppi	m ground	0.0ppm					
Weather:	81 degrees, hu	ımidity 50%	; wind 2 m	ph	_							
	Sunny, no clou	ıds			-		Sampled By:	Kieler/Wald	den			
					WE	ELL PUF	RGING					
PURGE DATE:	4/11/14		WΔ	TER DEPTH/TD:	(# RTOC)	7.4	18.95		Date	4/11/14		433 Time:
I ONOL DATE.	4/11/14		•••	IER DEI III/ID.		95-7.4= 1			Date.	4/11/14		Time
			hard	oottom		1.88 gal						Conversion Factors
Purge Time						Purge rat	e: 2.2 gal					2" sched. 40 = .163 gal./ft. 2" sched 40 = .617 Liters/ft.
-	439						9					3/8" OD Tubing = .028 ml./ft.
	457											1/4" OD Tubing = .015 ml./ft.
Total elapsed	18	minutes										1 Gallon = 3.7854 Liters
		ARAMET	-	SUREMENT								
Time of last calibrati Time of	Vol. **	Temp	Well Pur pH	ge Volum 1.8 Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comm	nents (e.g., color, odor)
Measurement	Purged	°C	pii	(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)	00	(0.9., 00.0., 000.)
441	1.8	17.62	7.32	0.580	208.0	2.36	99.2	-	-	-	No	odor/slightly clear
442	5.0	16.72	7.23	0.674	198	4.12	101.9	-	-	-	No	o odor/slightly clear
445	7.0	16.67	7.03	0.604	229.0	3.38	106.7	_	_	_		o odor/slightly clear
447	9.0	16.73	6.69	0.605	190.0	2.65	112.	-	-	-	No	o odor/slightly clear
449	12.5	17.56	7.34	0.611	34.6	6.01	95.50	-	-	-		o odor/slightly clear
451	16.0	17.43	7.24	0.612	110.0	3.03	95.6	-	-	-	No	o odor/slightly clear
453	19.0	16.98	7.09	0.613	86.8	4.24	99.0	-		-	No	o odor/slightly clear
455	22.0	16.68	6.73	0.624	27.3	4.21	104.0	-	-	-	No	o odor/slightly clear
								_	-	-		
	22	Total Purge	Volumo		**Individuo	Lvolumon	, not cumulativ	o in gallons				
	22	Total Furge	volume		murvidua	i voiuilles	, not cumulativ	e, iii galions				
					WEI	LL SAN	IPLING					
Time 5:02	-							_				
WL= 9.32 ft								_				
								_	Sam	ple Date:	N/A	
	-											Start:
	-											
										ple Time:		Finish:
									In	dicate Start/Fin	ish times only	if sample times are greater than 15 minutes.
Control No.		Volume/0	Cont.	Analysis Reques	ted		Preserv.	Sample	e Location ID	)	QC?	Comments
	QUALITY CON	ITROL SAM	IPLES					Additional c	omments:			
TYPE		SAMPL	E ID		C-of-C							
Ambient Blank				AB								
Duplicate				FD								
Equipment Blank				EB						-		
Trip Blank				ТВ		-	R	ecorded by:	Walden			
							1					<del></del>

Gregg County Re	efinery			Arrived	440					W	ell Num	ber: MW-9	
Well Type:	MW												_
Well Material: PVC	2"	Well I	ntegrity:	New install, new wel	l pad								
Well casing mor	nitoring reading	s:										<u> </u>	
Weather:	Sunny; hot; wi	ndy			=								
					_	D	eveloped By:	Walden					
					WI	ELL PUF	RGING						
PURGE DATE:	4/12/14		WA <sup>-</sup>	TER DEPTH/TD:	(ft. BTOC)	3.6	23.:	24	Date:	4/12/14		Time:	
Purge Time Start Stop Total elapsed	537 33	- - minutes		SUREMENT		3.2 gal Purge rat	e: 2.2 gpm					Conversion Factors  2" sched. 40 = .163 gal./f  2" sched 40 = .617 Liters  3/8" OD Tubing = .028 ml./ft  1/4" OD Tubing = .015 ml./ft  1 Gallon = 3.7854 Lite	s/ft. t. t.
Time of last calibrati		T		ge Volum: 2.2 gpm	To code fields a	D 0	ODD	_ 2+	0.46-4-	NIIA-IA-	Comm	ponto (o a polor odor)	
Time of Measurement	Vol. ** Purged	Temp °C	pН	Cond. (ATC) (mMhos/cm)	Turbidity mg/L	D. O. (mg/L)	ORP (eV)	Fe <sup>2+</sup> (mg/L)		Nitrite (mg/L)	Comm	nents (e.g., color, odor)	
504	3	-	-	-	*OUT	-	-	-	-	-	Hea	vily silted/septic odor	
510	3	_	_	-	*OUT	_	_	_	_	_			
514	3	-	-	-	*OUT	-	-	-	-	-			
519	2	20.08	5.93	0.288	*OUT	15.59	50.8	-	-	-	at 11.5	gallons change in color	
526	4	20.85	5.86	0.268	*OUT	6.02	53.5	-	-	-			
532	3	19.48	5.54	0.194	-	1.48	88.1	-	-	-	after 18 g	als went to heavy surging to at to clear well	tempt
537	2	-	-	-	-	-	-	-	-	-		well dry	
				I.	1								
* out of range	20	Total Purge	Volume		**Individua	ıl volumes	, not cumulativ	ve, in gallons					
					WE	LL SAN	IPLING						
NOTES:	-							_					
After heaving surging a	after 18 gal, the	flow rate inc	creased, c	larker color				_					
At 4.5 gallons flow dec								_					7
	-								Sample	e Date:	N/A		
No turbidity taken, inch	es of silt in pur	ge bucket		20 gal total	purge							Start:	
DTW at 5:38 is 21.9 en	d of developme	ent, well dry							Sample	Time:		Finish:	
									Indica	ate Start/Fir	nish times only	if sample times are greater than 15 minut	ies.
Control No.		Volume/0	Cont.	Analysis Reques	sted		Preserv.	Sampl	e Location ID		QC?	Comments	
	QUALITY CON						1	Additional of	comments:				_
TYPE		SAMPL	E ID		C-of-C								_
Ambient Blank				AB		-		-					_
Duplicate				FD		=							_
Equipment Blank				EB		-	_	Decorded by	Waldon				
Trip Blank				TB		-	F	Recorded by:	- v alucii				

Gregg County Ro	efinery			Arrive	904					V	ell Num	ber: MW-10
Well Type:	Monitoring											
Well Material: PVC	2"	Well	Integrity:	Flush mount (new	well), no lock,	, mount/pa	d installed yet	(new well)		=		
Well casing mo	nitoring reading	s:		0.2ppm breathing;	4.9ppm well;	.2ppm gro	ound					
Weather:					_							
	68 degrees, cl	oudy			_	D	eveloped By:	Kieler/Rain	es			
					V	WELL PL	IRGING					
PURGE DATE:	4/12/14		WA	TER DEPTH/TE soft botto		4.15	20. 16.17		Date:	4/12/14		Time: 953  Conversion Factors
Purge Time Start Stop Total elapsed	1037	*well stopped minutes	ed produc	2.63 ing so purge was st	gallons purge opped for rec			4.9				2" sched. 40 = .163 gal./ft. 2" sched 40 = .637 Liters/ft. 3/8" OD Tubing = .028 ml./ft. 1/4" OD Tubing = .015 ml./ft. 1 Gallon = 3.7854 Liters
Time of last actions		PARAMET	_	SUREMENT	2							
Time of last calibrat Time of	Vol. **	Temp	pH	ge Volum: 2.6 Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comn	nents (e.g., color, odor)
Measurement	Purged	°C		(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)		
959	5	17.33	10.30	1.055	-	4.700	-109.6	-	-	-	-	diment (silt/fine), fuel odor, heavy surge
1009	15	16.51	9.59	1.152	-	3.9	-98.6	-	-	-	incr	reased vigor of surge
1013	4	17.74	8.46	1.226	282.0	2.10	-81.6	-	-	-	1	purge rate slowed
1017	3	17.68	8.12	1.196	187.0	8.59	-34.6	-	-	-	fro	thy surface to water
*1027	8	17.96	8.03	1.299	50.4	7.99	-28.9	-	-	-	pump	sucking air, sweet odor
1037	5	18.13	8.24	1.291	45.9	3.50	-43.0	-	-	-		
						Į.						
	40	Total Purge	Volume		**Individua	al volumes	not cumulativ	e, in gallons				
*stop pump to r	echarge								11 well clea	nup, well :	surface cor	mplete adding lock and lid
and he had					W	FII SA	MPLING					, J
					***	LLL JA	WII LING					
								_				
Decon equipment: WL	and pump, disp	oose of tubir	ng					_				
								- 1				
	_								Sam	ple Date:	N/A	
												Start:
									Sam	ple Time:		Finish:
											inish times only	y if sample times are greater than 15 minutes.
Control No.		Volume/0	Cont.	Analysis Requ	ested		Preserv.	Sample	e Location II	)	QC?	Comments
				, , , ,								
				•							•	
	QUALITY CON						1	Additional c	comments:			
TYPE		SAMPL	E ID		C-of-C							
Ambient Blank				AB	-	=-						
Duplicate				FD		_						
Equipment Blank				_EB		=	_	looorded b	Violor			
Trip Blank				TB		= 	F	Recorded by:	NICIEI			

Gregg County Re	efinery			Arrived	230		<del></del>			W	ell Num	ber: MW-11
Well Type:	MW											
Well Material: PVC	2"	Well I	ntegrity:	New install, new w	ell pad							
Well casing mo	onitoring reading	s:		PID: breathing zon	ie 0.0ppm; he	adspace 0	J.Oppm; grour	id 0.0ppm		-		
Weather:	Overcast, 80 d	legrees										
	Humidity 52%,	wind 15 mp	oh		_	De	eveloped By:	Walden/Ma	therne			
						VELL PU	RGING					
			10/0	>====U/TC								249
PURGE DATE:	4/12/14		WA	TER DEPTH/TD	): (ft. B10C):	7.9	23.	19	Date:	4/12/14		Time:
				soft botto								Conversion Factors
Purge Time					2.49 gal ge rate: 3.6 ga	1614	_	<del>_</del>				2" sched. 40 = .163 gal./ft. 2" sched 40 = .617 Liters/ft.
Start	255			pui	ge rate. 3.6 ga	ai/min						3/8" OD Tubing = .028 ml./ft.
Stop	314											1/4" OD Tubing = .015 ml./ft.
Total elapsed	19	minutes										1 Gallon = 3.7854 Liters
	FIELD P	ARAMETI	ER MEA	SUREMENT			ı					
Time of last calibrat				ge Volume:	2.4		000	2+	0 17 1		0	and to a select odes.
Time of Measurement	Vol. ** Purged	Temp °C	pН	Cond. (ATC) (mMhos/cm)	Turbidity mg/L	D. O. (mg/L)	ORP (eV)	Fe <sup>2+</sup> (mg/L)	Sulfate (mg/L)	Nitrite (mg/L)	Comm	nents (e.g., color, odor)
258	3.0	-	-	-	*out	-	-					clay/silt, no odor
300	2.5	-	-	-	*out	-	-					clay/silt, no odor
301	2.5		-	-	*out	-	-					clay/silt, no odor
303	2.5	-	-	-	*out	-	-					clay/silt, no odor
304	2.5	-	-	-	*out	-	-					clay/silt, no odor
310	2.5	19.98	4.81	0.660	88.6	12.28	186.8					slightly clearer, no odor
312	2.5	18.90	4.75	1.145	170.0	11.53	199.6					slightly silty, no odor
314	2.5	18.70	4.65	1.198	199.0	11.52	203.6					slightly silty, no odor
					+		 I					
	1			<u> </u>		I						*out of range
	20.5	Total Purge	Volume		**Individua	d volumes	, not cumulati	vo in gallons				· · · · · · · · · · · · · · · · ·
	20.5	Total Fulge	· volume		iliuividua	ii voiuities,	, not cumulati	ve, in gallons	•			
					100							
					WE	ELL SAI	MPLING					
								_				
DTW: 8.3 after	development											
20.5 gallons tot	al purged							_				
					-			_	0	ala Data	N1/A	
	-								Sam	ple Date:	N/A	
												Start:
									Sam	ple Time:		Finish:
									Ind	cate Start/Fin	sh times only	if sample times are greater than 15 minutes.
Control No.		Volume/0	Cont.	Analysis Requ	ested		Preserv.	Sample	e Location I	D	QC?	Comments
							<u></u>					
							i					
							 I					
		-										
		-										
	QUALITY CON	NTROL SAM	1PLES					Additional co	omments:			
TYPE		SAMPLI	E ID		C-of-C		ı					
Ambient Blank				AB			ı					_
Duplicate				FD		_	ı					
Equipment Blank				EB		_	ı					
Trip Blank				ТВ		-	R	ecorded by:	Walden			

Notes: Decon pump and water level indicator alconox, potable, DI

Gregg County Re	finery			Arrived	100					W	ell Num	ber: MW-12
Well Type:	Monitoring											
Well Material: PVC			ntegrity:	New install, well pad								
Well casing mor		_		PID: breathing zone	U.Uppm; nea	adspace u	.1ppm; ground	1 U.Uppm				
weather.	Sunny, partly of		wind 5m	ıph	=	D	eveloped By:	Walden/Ma	atherne			
			,	r	- 10	VELL PU						_
					V	VELL PU	IRGING					100
PURGE DATE:	4/12/14		WA	TER DEPTH/TD:	(ft. BTOC):	4.81	23.0	18	Date:	4/12/14		Time:
	205 48	minutes	50 M54	purs	2.97 gal ge rate: 2 ga	l/min			-			Conversion Factors  2" sched. 40 = .163 gal./ft.  2" sched 40 = .617 Liters/ft.  3/8" OD Tubing = .028 ml./ft.  1/4" OD Tubing = .015 ml./ft.  1 Gallon = 3.7854 Liters
Time of last calibrati		PAKAMET	_	ge Volume:		2.97						
Time of	Vol. **	Temp	pН	Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comm	ents (e.g., color, odor)
Measurement	Purged	°C		(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)		ciltulae adar
121	3	-	-	-	*out	-	-	-	-	-		silty/no odor
122	3	-	-	-	*out		-	-	-	-		silty/no odor
124	3	-	-	-	*out		-	-	-	-		silty/no odor
130	3	-	-	-	*out		-	-	-	-		silty/no odor
132	3	-	-	-	*out		-	-	-	-		silty/no odor
134	3	-	-	-	*out		-	-	-	-		silty/no odor
145	3	18.65	5.55	0.409	*out	15.75	91.5	-	-	-		silty/no odor
147	3	20.01	5.57	0.232	*out	10.25	63.2					silty/no odor
								-	-	-		
149	3	20.34	5.38	0.245	*out	10.98	82.3	-	-	-		silty/no odor
152	3	20.13	5.53	0.251	564	11.43	86.5	-	-	-		slightly clearer
155	3	18.83	5.84	0.255	195	9.59	97.0	-	-	-		
205	3	18.70	5.35	0.424	458	10.53	133.1	-	-	-		
								-	-			
			l .					-	-			*out of range
	20.5	Total Purge	e Volume		**Individua	l volumes.	not cumulativ	e. in gallons	l			
								., 3				
					10/5	-11 04	MDI INO					
					VVE	ELL SA	MPLING					
DTW: 9.42 after	development											
36 gallons total	purged											
								-	Sami	ple Date:		
	-								-			Otanti
												Start:
										ole Time:	h Para a sah S	Finish:
							0					sample times are greater than 15 minutes.
Control No.		Volume/	Cont.	Analysis Reques	sted		Preserv.	Sampl	le Location ID	)	QC?	Comments
	QUALITY CON	UTPOL SAM	IDI ES					Additional c	ommente:			
TYPE	QUALITY CON	SAMPL			C-of-C			Additional C	onnents:			
		SAMPL	ב וט		U-01-U							
Ambient Blank				AB		-						
Duplicate				FD	-	•						
Equipment Blank				EB	-	•	R	ecorded by:	Walden			
Trip Blank				TB		-	IN.					

Notes: Decon pump and water level indicator alconox, potable, DI

Gregg County Re	efinery			Arrived	904					We	ell Num	ber:	MW-13
Well Type:	MW											_	
Well Material: PVC		Well I	ntegrity:	New install, concret	e pad								
Well casing mor	nitorina readina		noginy.	PIDD: 0.0ppm at br	-					=			
	cloudy, overca	_		T IDD. 0.0ppiii at bi	eathing zone								
weather.					_		II.D	144-1-1					
	65 degrees, hu	imidity 85%.	wind 5 n	npn	_	D	eveloped By:	vv aiden/ivia	atnerne				
					WI	ELL PUF	RGING						
PURGE DATE:	4/12/14		WA	TER DEPTH/TD		3.69	23.	.1	Date:	4/12/14		Time:	917
				oon boud		1-3.69=19	9.41					Co	nversion Factors
					3	3.16 gallor	ns						ched. 40 = .163 gal./ft.
Purge Time	007				Г.	-t 1 00 ·							sched 40 = .617 Liters/ft.
Start Stop	1034				Flow I	ate: 1.99	yai/min						D Tubing = .028 ml./ft. D Tubing = .015 ml./ft.
Total elapsed		minutes											1 Gallon = 3.7854 Liters
								4.9					_
Time of last calibrati		PARAMETI		SUREMENT ge Volum 3.1			-						
Time of	Vol. **	Temp	pH	Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comm	nents (e.g	J., color, odor)
Measurement	Purged	°C		(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)			
931	3.1	19.1	6.29	0.248	*out	9.16	-27.5	-	-	-	c	dark silty,	no odor
938	3.2	18.45	6.03	0.454	*out	9.45	-35.5	-	-	-		cloudy/n	o odor
942	3.0	18.44	5.84	0.459	*out	2.03	-22.3	-	-	-	ve	ery cloudy	, no odor
948	6.5	18.62	5.99	0.234	736.0	9.15	-25.1	-	-	-			oudy, no odor
954	6.5	18.81	6.1	0.233	418.0	12.50	-25.3	-	-	_			oudy, no odor
1004	12.0	18.91	6.25	0.216	209.0	9.35	-42.9	-	_	-			oudy, no odor
1016	12.0	19.03	6.33	0.241	128.0	2.30	-29.7	_	_	-			oudy, no odor
1034	17.0	19.58	6.41	0.357	84.9	10.3	-32.6	-	_				oudy, no odor
1034	17.0	10.00	0.41	0.007	04.9	10.3	-32.0	-	-	-	Glouic	, 3011 GIC	oddy, 110 odol
												*out of	range
												out or	range
	63.3	Total Purge	volume		individua	i voiumes	s, not cumulativ	ve, in gallons	<b>5</b>				
					N/EI	I CAR	ADLING						
					VVEI	LL SAN	IPLING						
	_							_					
DTW 4.25 end of deve								_					
Decon pump and tube	alconox, tap, DI												
									Sam	ple Date:	N/A		
	-												Chart
													Start:
									Samp	ple Time:			Finish:
									Indic	ate Start/Finish	n times only if	sample tim	es are greater than 15 minutes.
Control No.		Volume/0	Cont.	Analysis Reque	sted		Preserv.	Sampl	e Location II	)	QC?		Comments
										Ţ			
								1					
				l .			1	1				I	
	QUALITY CON	NTROL SAM	PLES				-	Additional c	comments:				
TYPE		SAMPL	E ID		C-of-C						-		
Ambient Blank				AB									
Duplicate				FD									
Equipment Blank				EB									
Trip Blank				ТВ			R	Recorded by:	Walden				

Gregg County Re	efinery			Arrived	1120					W	ell Num	ber:	MW-14
Well Type:	MW												
Well Material: PVC	2"	Well	ntegrity:	New install, concrete	e pad					_			
Well casing mor	nitoring readings	s:		PID breathing zone	0.0ppm; hea	dspace 0.	Ippm, ground	0.0ppm					
	overcast, 74 de	egrees, wind	4 mph		_								
	humidity 63%				_	D	eveloped By:	Walden/Ma	therne				
					W	ELL PU	RGING						
PURGE DATE:	4/12/14		WAT	TER DEPTH/TD:	(ft. BTOC):	7.45	22.4	9	Date:	4/12/14		Time:	1129
				soft bottor	n		0.45						
					-	flo	2.45 gal w rate: 2 gal/n	nin					version Factors ed. 40 = .163 gal./ft.
Purge Time							-					2" sch	ned 40 = .617 Liters/ft.
Start Stop	1137			1208 deve	elopment								Tubing = .028 ml./ft. Tubing = .015 ml./ft.
	36	minutes											Gallon = 3.7854 Liters
	EIELD B	ADAMET	ED MEA	SUREMENT				4.9					
Time of last calibration		AKAIVIEI		ge Volum: 2.4									
Time of	Vol. **	Temp	pН	Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comm	nents (e.g.,	color, odor)
Measurement	Purged	°C		(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)			
1137	2.5	-	*out		*out	-	-	-	-	-			
1140	2.5	-	*out	-	*out	-	-	-	-	-			
1142	2.5	-	*out	-	*out	-	-	-	-	-			
1144	2.5	-	*out	-	*out	-	-	-	-	-			
1146	2.5	-	*out	-	*out	-	-	-	-	-			
1149	2.5	-	*out	-	*out	-	-	-	-	-			
1151	2.5	-	*out	-	*out	-	_	-	_	_			
1209	2.5	21.8	6.25	0.850	*out	5.80	-14.9	-	_	_			
		20.7											
1211	2.5		6.20	0.664	*out	3.07	-25.00	-	-	-			
1213	2.5	22.5	6.25	0.578	*out	8.30	-22.9	-	-	-			
												*out of	range: turbidity
	25.0	Total Purge	Volume		**Individual	volumes,	not cumulative	, in gallons					
	SURGE			25 total gallo	ns purged			DTW: 9.91	after develo	pment			
					WE	LL SA	MPLING						
					-								
Decon: pump ar	nd water level in	dicator, alco	onox, pota	ble DI				=					
									Sam	ple Date:	N/A		
													Start:
									Sam	ple Time:		F	inish:
											ish times only		are greater than 15 minutes.
Control No.		Volume/0	Cont	Analysis Reque	etad		Preserv.	Sample	e Location ID		QC?		Comments
Control 140.		Volumer	Jont.	Analysis reque	Sicu		T TCSCTV.	Gampio	C LOCATION IL	,	QO:		Comments
				<u> </u>				1				l	
	QUALITY CON	ITROL SAM	IPLES					Additional c	omments:				
TYPE		SAMPL	E ID		C-of-C								
Ambient Blank				AB									
Duplicate				FD									
Equipment Blank				EB									
Trip Blank				ТВ			Re	ecorded by:	Walden				

Gregg County Re	efinery			Arrived	1415					W	ell Num	ber: MW-15
Well Type:	Monitoring											
Well Material: PVC	2"	Well I	ntegrity:	New								
Well casing mo	nitoring readings	3:		PID: breathing zone	0.0ppm; he	adspace 0	.0ppm; groun	d 0.0ppm		-		
Weather:	Cloudy											
					_	D	eveloped By:	Kieler/Rain	es			
					v	VELL PU	IRGING					
												1425
PURGE DATE:	4/12/14		WA	TER DEPTH/TD:	(ft. BTOC)	2.5	18.	16	Date:	4/12/14		Time:
	1438				2.55 gallor	ns/per volu	me					Conversion Factors 2" sched. 40 = .163 gal./ft. 2" sched 40 = .617 Liters/ft. 3/8" OD Tubing = .028 ml./ft.
Stop Total elapsed	1511 33	minutes										1/4" OD Tubing = .015 ml./ft. 1 Gallon = 3.7854 Liters
							•					
Time of last calibrat		ARAMETI		SUREMENT								
Time of last calibrat Time of	Vol. **	Temp	pH	ge Volume: Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comm	nents (e.g., color, odor)
Measurement	Purged	°C	·	(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)		
1440	4.0	20.23	6.85	0.762	-	8.66	16.9	-	-			heavy surge/brown grey
1442	2.0	19.40	6.91	0.878	245	5.45	17.3	-	1			no surge, clearing sediment
1445	2.5	20.42	6.74	0.781	197	4.80	39.6	_	-			no surge, clearing sediment
1447	2.5	19.93	6.91	0.853	347	3.87	15.1	_				slowing flow
1448	1.0	20.25	6.90	0.828	124	3.84	13.2	_	-			dry, cloudy but clear grey
1508	1.0	20.04	6.87	0.783	101	3.94	-		-			grey brown
		-		-								
1511	-	-	-	-	-	-	-	-	•			no purge volume, sputtering
								-	-			
	11.0	Total Purge	Volume		**Individua	I volumes,	not cumulativ	ve, in gallons				
					WE	ELL SA	MPLING					
4547 44 00 141	_							_				
1517 14.23 WL								_				
									Sam	ple Date:		
	-			<del></del>								Start:
										ple Time:		Finish:
									Ir	dicate Start/Fir	nish times only	if sample times are greater than 15 minutes.
Control No.		Volume/0	Cont.	Analysis Reques	sted		Preserv.	Sampl	e Location II	)	QC?	Comments
	QUALITY CON	ITROL SAM	IPLES				Ì	Additional c	omments:			
TYPE		SAMPL	E ID		C-of-C							
Ambient Blank				AB		-						
Duplicate				FD		_						
Equipment Blank				EB		=						
Trip Blank				ТВ		-	F	Recorded by:	Kieler			

Gregg County Re	efinery			Arrived	1315					We	ell Num	ber: MW-16
Well Type:	Monitoring											
Well Material: PVC	2"	Well I	ntegrity:	New								
Well casing mo	nitoring reading	s:		PID: breathing zone	0.0ppm; he	adspace 0	.0ppm; ground	0.2ppm		-		
Weather:	Cloudy	_										
					_	D	eveloped By:	Kieler/Rain	es			
						VELL PU	IRGING					
PURGE DATE:	4/12/14		WA <sup>-</sup>	TER DEPTH/TD:			23.3	}	Date:	4/12/14		Time: 1315
Purge Time Start Stop Total elapsed Time of last calibrat	FIELD F	minutes  PARAMETI  04\12\14		SUREMENT ge Volume:	2.54 gallor	n volume						Conversion Factors  2" sched. 40 = .163 gal./ft.  2" sched 40 = .617 Liters/ft.  3/8" OD Tubing = .028 ml./ft.  1/4" OD Tubing = .015 ml./ft.  1 Gallon = 3.7854 Liters
Time of	Vol. **	Temp	pН	Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comn	nents (e.g., color, odor)
Measurement	Purged	°C		(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)		
1327	4.0	20.19	6.51	0.226	680	3.73	39.9	-				heavy surge/slight odor
1328	2.5	20.31	7.02	0.358	-	2.27	-8.4				-	
1329	2.5	20.18	6.69	0.453	662	3.61	11.2	-				well dry at 9 gal
1334	2.2	19.11	6.62	0.382	_	5.29	12.9	-				well dry at 10 ga.
1341	2.0	20.54	6.67	0.429	137	4.01	19.5					Varying flow
												varying now
1343	1.0	20.84	6.69	0.433	135	4	17.8					
								-				
		Ī										recharge and flow varies
	14.2	Total Purge	Volume		**Individua	ıl volumes,	not cumulative	e, in gallons				
		WL=18.21		1351								
					WE	ELL SA	MPLING					
Dogge nump or												
Decon pump ar	IU VVL			<del></del>								
	_								Sam	ple Date:	N/A	
												Start:
									Com	nla Tima:		Finish:
										ple Time:		
				T			r					y if sample times are greater than 15 minutes.
Control No.		Volume/0	Cont.	Analysis Reque	sted		Preserv.	Sampl	e Location II	)	QC?	Comments
TVDE	QUALITY CON				0 -4 0		]	Additional c	omments:			
TYPE		SAMPL	ב וט		C-of-C							
Ambient Blank				AB		-						
Duplicate	-			FD		-						
Equipment Blank				EB		-	,	oordad L	Viole:			
Trip Blank				TB		-	Ke	ecorded by:	MEIGI			

Gregg County Re	efinery			Arrived	1216				1	Well Num	ber: MW-17
Well Type:	Monitoring										
Well Material: PVC	-	Well	Integrity:	New stickup, pad co	omplete, goo	od condition	1				
Well casing mor			٠.	0ppm breathing zon					<del></del>		
	68 degrees, cle	_				-					
					_	D	eveloped By:	: Kieler/Rain	es		
						WELL PU					
					-	VELL I C	KUIIVU				4000
PURGE DATE:	4/12/14		WA	TER DEPTH/TD:	: (ft. BTOC)		23	3.3	Date: 4/12/1	4	Time: 1220
						14.85x.163	3				Conversion Factors
					2.42 ga	allons purge	volume				2" sched. 40 = .163 gal./ft.
Purge Time	1000										2" sched 40 = .617 Liters/ft. 3/8" OD Tubing = .028 ml./ft.
Start	1226 1255	<b>=</b>									3/8" OD Tubing = .028 ml./ft. 1/4" OD Tubing = .015 ml./ft.
	29	minutes									1 Gallon = 3.7854 Liters
	EIELD I	CARAMET	ED ME	ASUREMENT			i	14.5 gallon	s, 6 vols		
Time of last calibration		4\12\14		rge Volume:		2.42					
Time of	Vol. **	Temp	pН	Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate Nitrite		nents (e.g., color, odor)
Measurement	Purged	°C	<del> </del>	(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L) (mg/L)		
1228	2.5	19.66	7.56	0.808	-	11.12	-37.5			strong sur	rge initial sed, then cloudy white grey
1230	2.7	19.24	7.22	1.178	-	3.06	34.7				slight odor fuel
1233	2.5	20.01	6.99	1.021	630	2.32	4.7				slow surge
1237	1.8	20.43	7.04	1.104	190	1.98	12.8	+		no su	ırge, varying flow rates
								+	<del> </del>		
1240	2.0	20.67	7.02	1.110	168	1.29	6.9			no	surge, varying flow
1243	2.5	19.9	6.89	1.051	102	1.46	-13.5		<u></u>	no	surge, varying flow
1246	2.5	20.06	6.97	1.085	108	1.72	8.1	1		No	o surge, lower flow
1255	2.5	20.45	6.96	1.091	47	2.00	8.4	+		low t	flow now, near trickle
				+	+	+		+		+	
	ļ	<u> </u>	<del> </del>	<u> </u>	<u> </u>	1		1	ļ	∔	
1										$\perp$	
				1							*out of range
	19	Total Purge	e Volume		**Individue	al volumes.	not cumulativ	ve. in gallons			
		10	,		*	1101	10. 02	10, g			
					Wi	ELL SAI	MPLING				
<u> </u>				<del></del>	-	-	-	_			
								- r			
	-								Sample Date	: N/A	
											Start:
									Sample Time		Finish:
									•		if sample times are greater than 15 minutes.
Control No		Volume/0	Cont	Analysis Pegus			Process	Sample			
Control No.		V0lume/c	Jont.	Analysis Reques	stea		Preserv.	Sample	e Location ID	QC?	Comments
		<del>                                     </del>		-		-		+		+	
		<del> </del>		<u> </u>		$\longrightarrow$		+		+	
	1						ı				
								1			
		<del> </del>		+		$\rightarrow$		+		+	
				+			-	+		+	
							ii	+		+	
		1		ıl.							
	QUALITY CON	NTROL SAN	√PLES					Additional co	omments:		
TYPE		SAMPL	E ID		C-of-C						
Ambient Blank		-		AB							
Duplicate				FD FD		-	ı				
Equipment Blank	-	-		EB	-	-	ı	:			<del></del>
Trip Blank				_EB TB		-	. г	Recorded by:	Kieler		
ттр ыапк				- <sup>I D</sup>		-	i				

Gregg County Re	efinery			Arrived	1120					W	ell Num	ber:	MW-18	
Well Type:	Monitoring													
Well Material: PVC		Well I	ntegrity:	Nev Rusted, no lock										
Well casing mor	nitoring reading	s:		Oppm on breath. zon	e, 0ppm on	wellhead,	0ppm ground							
Weather:	68 degrees, clo	oudy												
					_	D	eveloped By:	Kieler/Rain	es					
					WI	ELL PUF	RGING							
PURGE DATE:	44444		14/4	TED DEDTU/TD.	/fi DTOO\				5	4/4.4/4.4		<b>T</b>	1126	
FUNGE DATE.	4/14/14		WA	TER DEPTH/TD:	(IL BTOC)	6	23.	3	Date:	4/14/14		Time:		
						17.30							version Factors	
Purge Time					28	gallons to	otal						hed. 40 = .163 gal ched 40 = .617 Lite	
Start	1129												Tubing = .028 ml.	
Stop	1203 34	minutes											Tubing = .015 ml. Gallon = 3.7854	
Total elapsed	34	minutes										'	Gallott = 3.7654	LILEIS
		ARAMET		SUREMENT										
Time of last calibrati Time of	4/14/14 Vol. **	Temp	Well Pur pH	ge Volume: Cond. (ATC)	2.8 Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comm	nents (e.g.	, color, odor)	
Measurement	Purged	°C	F	(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)			,	
1131	3	19.64	6.18	1.603	*out	2.56	97.5	-	-	-	he	avy surge	, no odor	
1133	3	-	-	-	*out	-	-	-	-	-	he	avy surge	, no odor	
1135	3	-	-	-	*out	-	-	-	-	-	he	avy surge	, no odor	
1138	3	-	-	-	*out	-	-	_	1	_	he	avy surge	, no odor	
1143	6	19.90	6.32	1.712	760	3.74	-	-				ight grey,		
		19.64		1.686										
1146	3		6.33		64	3.70	65.0	-	-			ight grey,		
1149	3	19.70	6.30	1.670	498	3.73	68.9	-	-	-		slight cle	aring	
1154	3	-	6.33	1.580	205	3.53	65.9	-	-	-				
*1159	1	-	-	-	55.1	-	-	-	-	-				
*1203	1	-	-	-	44.6	-	=	-	=	-	tı	rickle purg	ed only	
											* Look- vo	lume flow	decreasing signific	cantly
	29	Total Purge	Volume								Trickled p	urged only	, dry (well dry)	
					WEI	LL SAN	IPLING							
Decon WL and	pump							_						
								=						
					-			-	Com	ala Data:	NI/A			
	-								Sam	ole Date:	N/A			
													Start:	
									Samp	ole Time:			Finish:	
									Indica	ate Start/Finis	h times only it	sample time	s are greater than 15 mir	nutes.
Control No.		Volume/	Cont.	Analysis Reques	sted		Preserv.	Sample	e Location ID	)	QC?		Comments	
	QUALITY CON	NTROL SAM	MPLES					Additional c	omments:					
TYPE		SAMPL	E ID		C-of-C									
Ambient Blank				AB										
Duplicate				FD		=								
Equipment Blank				EB		<b>=</b> ∘								
Trip Blank				ТВ			R	ecorded by:	Kieler					

# MONITORING WELL SAMPLING FORMS MW1 THROUGH MW18

GROUNDWATER SAMPLING DATA SHEET
Arrival time 1235

Well Type:	,				Airivartii	200				•	von Hun		14-1	-
Well Material: PVC		Well	Integrity:	Rusted casing, stick u	ID									
Well casing moni	toring readings:			reathing Zone 0.2ppm;		).1ppm; 3) g	ground: 0.1ppm						<del></del>	
	Sunny, 60 degre	ees											<del></del>	
	slight breeze				_		Sampled By:	Konvalin						
						ELL PUF	RGING							
DUDGE DATE			147	ATER DERTUTO										
PURGE DATE:	4/16/14		W	ATER DEPTH/TD	(ft. BTOC):	5.65	16.975		Date:	4/16/14		Time: 12	42	
Purge Time Start Stop Total elapsed	FIELD	minutes  PARAMET		PID: North Notcl Riser Heigl Casing Hei  SUREMENT pe Volume: 1.84	nt: 2.5							2" sched. 2" sched 3/8" OD Tub 1/4" OD Tub	sion Factors 40 = .163 gal./ft. 40 = .617 Liters/ft. ing = .028 ml./ft. ing = .015 ml./ft. lon = 3.7854 Liters	
Time of	Vol. **	Temp	pH	Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comr	ments (e.g., cold	or, odor)	
Measurement	Purged	°C		(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)				
1256	0.35	16.8	6.65	0.632	20.6	2.7	-50.6	-	-	-		-		
1301	0.35	16.45	6.37	0.629	11.3	0.5	-40.3	-	-	-		-		
1306	0.35	16.62	6.3	0.631	14.6	0.43	-39.7	-	-	-		-		
1311	0.35	16.64	6.29	0.631	12.9	0.45	-42.6	-	-	-		-		
1316	0.35	16.68	6.31	0.631	11.9	0.44	-47.6	-	-	-				
1321	0.35	16.69	6.32	0.63	11.0	0.45	-47.7	_	_	_				
1326	0.35		6.29	0.627		0.74	-45.4	_	-	-				
1326	0.35	16.73	6.29	0.027	8.19	0.74	-45.4	-	-	-		-		
	2.45	Total Purge	Volume		**Individual	volumes, r	not cumulative, in	n gallons (ap	proximate)					
					WE	LL SAN	IPLING							
DTW														
6.2 @ 1258		numn rate o	decreased	for VOCs and EDBs ar	nd then return	ed to initial	rate for metals		San	nple Date:	4/16/14			1
6.35 @ 1318 - pump rate	reduced	pump rate c	Jecreaseu	and SVC		eu to miliai	rate for metals		Can	ipic bate	4/10/14	01-	1000	
												Sta		
6.3 @ 1358 FINAL									Sam	nple Time:	1330	Finis		-
Approx Pump De	pth: 12 feet bgs		1	1.35x.163=1.85						Indicate Sta	rt/Finish times	only if sample times a	are greater than 15 minute	ıs.
Control No.		Volume/C		Analysis Request	ted		Preserv.	Sample	Location ID		QC?	(	Comments	
MW1		2 1-liter : 3-40ml gla		SW 846 8270D			4°C		-		-		-	
MW1		with Teflo	n septa	EPA 504.1			4°C, Na2S203		-		-		-	
MW1		2-40ml gla with Teflo		VOCs 8260C			4°C, HCI		-		-		-	
MW1		2-500 ml gla	ass or poly	TAL 6020A HG 7040A	V7041A Meta	ls	4°C, HN03		-		-		-	
								1						
	QUALITY CON	TROL SAMPI	LES					Additional	comments:	No well cap	/plug water	r inside well cas	ng	
TYPE		SAMPL	E ID		C-of-C					W	ater inside	well casing.		_
Ambient Blank				AB										_
Duplicate				FD										
Equipment Blank				ЕВ										
Trip Blank				ТВ			F	Recorded by:	Lauren Konva	alin				_
							<u> </u>							

GROUNDWATER SAMPLING DATA SHEET

Gregg County Re	efinery									V	/ell Num	ber: MW-2	
Well Type:													
Well Material: PVC			ntegrity:	Rusted									
Well casing mor		_	Fully ent	act to concrete									
vveatner:	Clear skies/sui <5 mph wind fi				=		Carrale d Don	\/== d.d.= /	A -41				
	<5 mpn wind ii	rom S			-		Sampled By:	vandyke / /	Arthur				
					WE	ELL PUI	RGING						
PURGE DATE:	4/16/14		WA	TER DEPTH/TD:	(ft. BTOC)	3.85'	17.78'		Date:	4/16/14		Time: 1130	
-	0936 105	minutes		35.75" from	TOC to GL n riser to GL concrete to		sing					Conversion Factors 2" sched. 40 = .163 ga 2" sched 40 = .617 Lit 3/8" OD Tubing = .028 ml 1/4" OD Tubing = .015 ml 1 Gallon = 3.7854	ll./ft. ers/ft. l./ft.
Time of last colibrati		PARAMETI	-	SUREMENT									
Time of last calibrati Time of	Vol. **	Temp	pH	ge Volume: 2.2 Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comm	nents (e.g., color, odor)	DTW
Measurement	Purged	°C .	·	(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)			
0834	<0.1	-	-	-	-	-	-	-	-	-		-	4.0
0841	0.25	14.72	7.34	0.534	7.30	0.94	-24.5	-	-	-		Clear - no odor	4.55
0846	0.3	15.08	7.3	0.536	6.95	0.66	-24.5	_	_			Clear - no odor	4.59
0851	0.3	15.26	7.31	0.56	7.26	0.55	-25.1	-	-	-		Clear - no odor	4.63
0856	0.42	15.44	7.4	0.55	8.12	0.55	-35.6	-	-	-		Clear - no odor	4.67
0901	0.4	15.49	7.56	0.562	8.31	0.42	-50.2	-	-	-		Clear - no odor	4.75
0906	0.4	18.55	7.58	0.563	7.8	0.38	-53.1	-	-	-		Clear - no odor	4.76
											0920 dec	reased flow rate to sample	4.75
												After stop purge	4.69
												Arter stop purge	4.03
			•										
	2.07	Total Purge	Volume		**Individua	l volumes	, not cumulative	e, in gallons					
					WEI	LL SAN	//PLING						
C+ @ 4	055					C/III							
Stop purge @ 1									1				_ 1
DTW 8.75' @	1256								Sam	ple Date:	4/16/14		
Approx Pump D	epth: 13 feet bo	js										Start: 0910	
									Sami	ole Time:	0920	Finish: 936	
												y if sample times are greater than 15 m	inutes.
0			<u> </u>										
Control No. MW2		Volume/0		Analysis Reque SW 846 8270D	siea		Preserv. 4°C	Sampl	e Location II	,	QC?	Comments -	
MW2		3-40ml gla	ass vials				4°C, Na2S203					_	
IVIVV∠		with Teflo 2-40ml gla		EPA 504.1			C, Na25203				-	-	
MW2		with Teflo		SW846 8260C			4°C, HCI		-		-	-	
MW2		2-500 ml		TAL 6020A HG 704	0A / 7041A I	Metals	4°C, HN03		-		-	-	
		pol	у				.,						
				1			1	1			I	Ш	
	QUALITY CON	NTROL SAM	MPLES					Additional c	omments:	Soft Bott	om		
TYPE		SAMPL	E ID		C-of-C								
Ambient Blank				AB			1						
Duplicate				FD									
Equipment Blank				EB									
Trip Blank				TB			Re	ecorded by:	James Van	Dyke			
	-			-									

### GROUNDWATER SAMPLING DATA SHEET

Gregg County Re	finery				Arrived	1544				W	ell Numb	per: MW-3	_
Well Type:													
Well Material: PVC				New install, new pa		4 :							
Well casing mor			4 ppm w	ellhead; 12 inch brea	atning zone; 2	inch rise	er inside; 36 incr	1 tom or mo	nument				
weather.	overcast, 60 c	legrees			_		Sampled By:	Thompson	/ Arthur				
						BII		mompoon	77111101				_
					WI	ELL PU	RGING						
PURGE DATE:	4/15/14		WA	TER DEPTH/TD	(ft. BTOC):	5.2	15.5		Date:	4/15/14		Time: 1535	
Purge Time Start Stop Total elapsed	1620 33	delay due to			ons		1					Conversion Factors  2" sched. 40 = .163 gal./ft.  2" sched 40 = .617 Liters// 3/8" OD Tubing = .028 ml./ft.  1/4" OD Tubing = .015 ml./ft.  1 Gallon = 3.7854 Liter	ft.
Time of last calibration		PARAMEII	-	ge Volume: 1.67									
Time of Measurement	Vol. ** Purged	Temp °C	рН	Cond. (ATC) (mMhos/cm)	Turbidity mg/L	D. O. (mg/L)	ORP (eV)	Fe <sup>2+</sup> (mg/L)	Sulfate (mg/L)	Nitrite (mg/L)	Comm	ents (e.g., color, odor) DTW	
1553	-	16.62	7.79	0.595	22	3.3	-	-	-	-		-	
1558	-	16.26	7.01	0.597	65.7	0.55	-	-	-	-		6.5	
1604	-	16.24	6.69	0.596	62.8	0.55	-	-	-	-		7.4	
1609	-	16.14	6.54	0.596	51.4	0.47	-	-	-	-		8.0	
1615	-	16.04	6.55	0.602	39.6	0.43	-	-	-	-		8.0	
1620	-	16.06	6.54	0.604	31.1	0.39	-	-	-	-		8.0	
	-	Total Purge	Volume		**Individua	l volumes	, not cumulative	, in gallons	i				
					WE	11 54	MPLING						
A D D					***	LL OAI	III LIIIO						
Approx Pump D	eptn: 11 feet b	gs			-								
	-								Com	ple Date:	4/15/14		7
	-								Gain	pie Date.	4/13/14	Start: 1620	
	-								Sam	ple Time:	1620		
										•		Finish: 1700	
0		T					-						
Control No. MW3		Volume/0		Analysis Reque SW 846 8270D	estea		Preserv. 4°C	Sampi	e Location II	)	QC?	Comments -	
MW3		3-40ml gla	ss vials	EPA 504.1			4°C, Na2S203		-		-	-	
MW3		with Teflo 2-40ml gla with Teflo	ass vials	SW846 8260C			4°C, HCI		-		-	-	
MW3		2-500 ml g	glass or	TAL 6020A HG 704	40A / 7041A N	Metals	4°C, HN03		-		-	-	
		por	,										
	QUALITY CO	NTROL SAM	/IPLES				_	Additional o	comments:	ORP not	collected		
TYPE		SAMPL	E ID		C-of-C								
Ambient Blank				AB									_
Duplicate				FD									_
Equipment Blank				ЕВ			_	1					
Trip Blank				TB	-		Re	согаеа ву:	Jamie Thon	ibsou			_

GROUNDWATER SAMPLING DATA SHEET

Gregg County Re	efinery				Arrival t	ime 123	5			W	ell Numl	ber:	MW-4
Well Type:													&MW4-DUP
Well Material: PVC			ntegrity:	Rusted casing, stic									
Well casing mo	nitoring reading	s:		1) breathing zone: (	0.1 ppm, 2) w	ellhead 2.	.2 ppm, 3) grou	und 0.1 ppm					
Weather:	Sunny, 63 deg	grees			_								
	slight breeze						Sampled By:	Konvalin /	Kieler				
					W	ELL PU	RGING						
PURGE DATE:	4/16/14		WA	TER DEPTH/TD	: (ft. BTOC):	5.175	14.925		Date	4/16/14		Γime:	1525
Purge Time Start Stop Total elapsed		minutes	FR MF	ASUREMENT			1					2" sc 2" sc 3/8" OD 1/4" OD	nversion Factors shed. 40 = .163 gal./ft. ched 40 = .617 Liters/ft Tubing = .028 ml./ft. Tubing = .015 ml./ft. I Gallon = 3.7854 Liter
Time of last calibrat		AIVAMETI		rge Volume:									
Time of Measurement	Vol. ** Purged	Temp °C	рН	Cond. (ATC) (mMhos/cm)	Turbidity mg/L	D. O. (mg/L)	ORP (eV)	Fe <sup>2+</sup> (mg/L)	Sulfate (mg/L)	Nitrite (mg/L)	Comn	nents (e.g	., color, odor)
1534	-	16.52	6.03	1.437	16.7	2.01	9	-	-	-		-	
1539	-	16.23	5.56	1.438	6.0	0.47	33.3	-	-	-		-	
1544	-	15.99	5.55	1.437	5.86	0.27	29	-	-	-		-	
1549	-	15.94	5.52	1.438	6.40	0.33	32.9	-	-	-		-	
	.66 gal	Total Purge	Volume		**Individua	l volumes	, not cumulative	e, in gallons					
		l						. 0					
					WE	LL SA	MPLING						
DTW													
6.67 @ 1532		pump rate of	decrease	d for VOCs and EDB	s and then re	eturned to	initial rate for r	metals and S	SVOCs San	nple Date:	4/16/14		
5.975 @ 1541													
6.15 @ 1546													
6.425 @ 11639 - final													Start: 1558
Approx Pump [	enth: 10 feet h	ns							San	nple Time:	1558		Finish: 1639
, and a	. opu 10 1001 D	90	1.	1 25 462 4 95								ly if sample ti	mes are greater than 15 minute
Control No.		) / = l / /		1.35x.163=1.85			D	0					
MW4		Volume/0		Analysis Reque SW 846 8270D	estea		Preserv. 4°C	Sampi	e Location I	U	QC?		Comments -
MW4		2-40ml gla	ass vials	EPA 504.1			4°C, Na2S203	3	-		-		-
MW4		3-40ml gla	ss vials	SW846 8260C			4°C, HCI		-		-		-
MW4		2-500 ml g	glass or	TAL 6020A HG 704	10A / 7041A I	Metals	4°C, HN03		-		-		-
	QUALITY COI	NTROL SAM	IPLES					Additional of	comments:	North Not	ch Marked		
TYPE		SAMPL	E ID		C-of-C					Riser heig	ght 2'8"		
Ambient Blank				AB						Casing H	eight 2'10"		
Duplicate				FD		-							
Equipment Blank				EB		-							
Trip Blank				ТВ		•	Re	ecorded by:	Lauren Kor	nvalin			

Gregg County Re	efinery				Arrival ti	ime	1115			W	ell Numl	ber: MW-5
Well Type:												
Well Material: PVC		Well	Integrity:	Rusted casing, stic	k up							
Well casing mo	nitoring reading	gs:	Water in	protective casing, b	reathing zon	e: 0.1 ppr	m, wellhead: 1	.0ppm, grour	nd: 0.1 ppm			
Weather:	Overcast, 57	degrees										
	slight breeze				_		Sampled By:	Konvalin /	Kieler			
					WE	ELL PUI	RGING					_
					***		KOMO					
PURGE DATE:	4/17/14		WA	TER DEPTH/TD	(ft. BTOC):	2' 7.5"	14'.5"		Date:	4/17/14		Time: 1118
											[	Conversion Factors
												2" sched. 40 = .163 gal./ft.
Purge Time												2" sched 40 = .617 Liters/ft.
Start Stop	1130	-										3/8" OD Tubing = .028 ml./ft. 1/4" OD Tubing = .015 ml./ft.
	20	minutes										1 Gallon = 3.7854 Liters
		- 					7					
Time of last calibrati		PARAMET	_	SUREMENT ge Volume:	_							
Time of	Vol. **	Temp	pH	Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comm	ents (e.g., color, odor)
Measurement	Purged	°C		(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)		
1133	-	16.36	6.94	1.357	14	3.56	-72.6	-	-	-		-
1138	-	16.15	6.92	1.363	17.6	0.42	-88.6	-	-	-		-
1143		40.00	0.70	1.365	40.0	0.29	-80.4					
	-	16.06	6.78		16.3	0.29	-00.4	-	-	-		
1148	-	16.13	6.69	1.366	17.8	0.28	-76.3	-	-	-		-
1153	-	16.05	6.72	1.368	11.7	0.25	-83.1	-	-	-		-
	1 gal	Total Purge	a Voluma		**Individua	Lvolumos	, not cumulativ	ve in gallons				
	i gai	I rotai i dige	e volume		individua	i volumes	s, not camalati	ve, iii galione	,			
					WEI	LL SAN	/IPLING					
DTW												
3'5.75" @ 1137		pump rate	decrease	d for VOCs and EDE	3s and then re	eturned to	o initial rate for	metals and	SVOCs			
									Sam	ipie Date:	4/17/14	
3'7" @ 1141 - pump ra	1											
3'5.75" @ 1146												
3'0.5" @ 1229												Start: 1200
Approx Pump D	epth: 10 feet b	igs								ple Time:	1200	Finish: ####
									li	ndicate Start/Fi	nish times only	if sample times are greater than 15 minutes.
Control No.		Volume/		Analysis Reque	ested		Preserv.	Sampl	e Location II	D	QC?	Comments
MW5		2 1-liter		SW 846 8270D			4°C		-		-	-
MW5		2-40ml gla with Teflo		EPA 504.1			4°C, Na2S20	3			-	<u> </u>
MW5		3-40ml gla		SW846 8260C			4°C, HCI		-		-	-
		with Teflo 2-500 ml			404 / 7044 4 1	Matala			_			
MW5		DO	lv	TAL 6020A HG 704	40A / 704 IA I	vietais	4°C, HN03				-	-
								+				
								+				
	QUALITY CO	NTROL SAM	MPLES					Additional c	omments:	North note	ch marked	
TYPE		SAMPL			C-of-C					Riser Hei		
		C L		4.0	3 3, 0		1	-			eight: 2'6.7	<u> </u>
Ambient Blank				AB	-					Judany 11	J.g.n. 2 0.7	<u> </u>
Duplicate				FD								
Equipment Blank				EB			_		1	P		
Trip Blank				TB			R	ecorded by:	Lauren Kon	ivalin		

Gregg County Re	efinery				Arrived	1313				W	ell Numb	er:	MW-6	
Well Type:														
Well Material: PVC	2"	Well I	ntegrity:	New install, new pad	i									
Well casing mo	nitoring reading	gs: 60	).2 inch w	ellhead; 0.0 Breathing	g zone, 0.0 i	nch grour	nd.							_
Weather:	57 degrees, c	lear												<del>_</del>
	wind				-		Sampled By:	M Thomps	on / Arthur					
					WE	ELL PUF	RGING							
DUDGE DATE:	=		14/4	TED DEDTUGE.	//: DTOO						_		1320	
PURGE DATE:	4/15/14	<del></del>	WA	TER DEPTH/TD:	(ft. BTOC):	5.72	15.15		Date:	4/15/14		ime:		
Purge Time Start Stop Total elapsed	1604 1625	delay due t minutes	o pump ra	ate								2" sch 2" sc 3/8" OD 1/4" OD	ned. 40 = .16 hed 40 = .61 Tubing = .02 Tubing = .01 Gallon = 3.7	33 gal./ft. 7 Liters/ft. 28 ml./ft. 5 ml./ft.
The state of the state of the state of		PARAMET	_	SUREMENT										
Time of last calibrati Time of	on: 4/15/2014 Vol. **	Temp	Well Pur pH	ge Volume: Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comme	ents (e.a.	, color, odor)	
Measurement	Purged	°C	PIT	(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)		(9-,	DTW	
1331	-	17.23	7.32	0.804	10.6	1.53	-	-		-		6.55		
1340	-	17.21	6.84	0.817	10.1	0.64	-	-	-	-		6.87		
1345	-	16.94	6.72	0.827	10.0	0.45	_	-	_			7.05		
1350	-	17.06	6.69	0.984	9.9	0.35	-	-	_					
1355	-	16.92	6.77	0.859	9.8	0.32	-	-	-	-		7.2		
	1 gal	Total Purge	Volume		**Individua	l volumes	, not cumulative	e, in gallons						
					WEI	LL SAN	IPLING							
Approx Pump D	epth: 11 feet b	gs												
	-		7.40 🛭	TW after completion										
	-		slight	hydrocarbon odor					Comm	ala Data	4/45/44			
	-		Ü						Sam	ole Date:	4/15/14			
	-													
	-												Start: 13	26
									Samp	ole Time:	1400		Finish: ##	##
									In	dicate Start/F	inish times only	if sample time	es are greater tha	n 15 minutes.
Contro	ol No.	Volume/	Cont.	Analysis Reques	sted		Preserv.	Sample	e Location ID	)	QC?		Commen	ts
MW6		2 1-liter	amber	SW 846 8270D			4°C		-		-		-	
MW6		2-40ml gla with Teflo	ass vials n septa	EPA 504.1			4°C, Na2S203		-		-		-	
MW6		3-40ml gla with Teflo	n septa	SW846 8260C			4°C, HCI		-		-		-	
MW6		2-500 ml pol		TAL 6020A HG 7040	0A / 7041A I	Metals	4°C, HN03		-		-		-	
							<u>I</u>							
	QUALITY CO	NTROL SAN	/IPLES				1	Additional c	omments:	33 1/2 we	ell square m	onument		
TYPE		SAMPL	E ID		C-of-C					30 1/4 top	of square	monumn	et	
Ambient Blank				AB						OPR not	collected			
Duplicate				FD										
Equipment Blank				EB										
Trip Blank				ТВ			Re	corded by:	Jamie Thom	ipson				

Gregg County Re	finery				Arrived	1100				W	ell Numl	ber: MW-7	
Well Type:													
Well Material: PVC	2"	Well I	ntegrity:	Good									
Well casing mo	nitoring reading	gs: 0.0	0 breathir	ng zone; 0.0 ????; (	0.0 ground								
_	clear, 53 degr												
					_		Sampled By:	Thompson	/ Arthur				
					_								-
					WE	ELL PUF	RGING						
PURGE DATE:	4/15/14		WA	TER DEPTH/TO	(ft. BTOC):	7.62	22.8		Date	4/15/14		Fime: 1106	
				7.6	2		PID	0.00			[	Conversion Factors	]
				22.	8 2.5 gallons	;	?	0.0				2" sched. 40 = .163 gal./ft.	
Purge Time							?	0.0				2" sched 40 = .617 Liters/ft	t.
Start	1106	delay due t	o pump ra	ate								3/8" OD Tubing = .028 ml./ft. 1/4" OD Tubing = .015 ml./ft.	
Stop Total elapsed		minutes										1 Gallon = 3.7854 Liters	l S
·		=					_				Ų		-
Time of least 100 or		PARAMET	-	SUREMENT									
Time of last calibrati Time of	on: 4/15/2014 Vol. **	Temp	Well Pur pH	ge Volume: Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comm	ents (e.g., color, odor)	
Measurement	Purged	°C	Pii	(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)	30		
1116	0.25	16.63	6.2	0.331		1.1	25.2	-	-	-		8.05	
1126	0.5	16.56	2.05	0.33	clear	1.05	29.9	-	-	-		8.15 -pump	
1131	1	16.74	6.05	0.332		0.92	22.1	-	-	-		8.15	
1136	1.25	16.8	6.01	0.335	7.93	0.9	27.6	-	-	-		8.15	
	1.25 gal	Total Purge	Volume		**Individua	l volumes	, not cumulative	e, in gallons	3				
					WEI	LL SAN	1PLING						
A D D						-							
Approx Pump D	epin. 16 leei b	ys						=					
													_
									San	nple Date:	4/15/14		
	-									.,			
	-												
												Start: 1106	
									Sam	nple Time:	1138	Finish: 1138	
										•			
		1								indicate Start	inish times only	if sample times are greater than 15 minutes.	
Contro	l No.	Volume/0		Analysis Requ	ested		Preserv.	Sample	e Location I	ID	QC?	Comments	
MW7		2 1-liter		SW 846 8270D			4°C		-		-	-	
MW7		2-40ml gla with Teflo	n septa	EPA 504.1			4°C, Na2S203	1	-		-	-	
MW7		2-40ml gla with Teflo		SW846 8260C			4°C, HCI		-		-	-	
MW7		2-500 ml g pol		TAL 6020A HG 70	40A - 7041A	Metals	4°C, HN03		-		-	-	
	QUALITY COI	NTROL SAN	MPI ES					Additional c	omments:				
TYPE	QU'NEIT I GO	SAMPL			C-of-C		]	, idailional o		-			-
Ambient Blank				AB									-
Duplicate				FD	-			-					-
				-	-								-
Equipment Blank				EB	-	:	D.	ecorded by:	lamic Tha	mneon			
Trip Blank				TB		:	Re	oorueu by:	Janne 11101	ιιμουΠ			-

Gregg County Re	finery			Arrived	115					W	ell Num	ber: MW-8
Well Type:	MW											
Well Material: PVC		Well Ir	ntegrity:	Rusted casing well p	ad intact							
Well casing mor	nitoring reading	s: PII	o reading	s; breathing zone 0.0	ppm; well h	ead 0.0 p	pm, ground 0.0	) ppm				
Weather:	sunny 60 degr	rees, humidit	y 37 perc	ent	_							
	wind32 mph				_		Sampled By:	Walden / K	Convalin			
					WE	ELL PUI	RGING					
PURGE DATE:	4/15/14		WA	TER DEPTH/TD:			18.98		Date:	4/15/14		Time:125
Purge Time Start Stop Total elapsed	220 33	delay due to minutes			n 1 gal/33 m	in	1					Conversion Factors  2" sched. 40 = .163 gal./ft.  2" sched 40 = .617 Liters/ft.  3/8" OD Tubing = .028 ml./ft.  1/4" OD Tubing = .015 ml./ft.  1 Gallon = 3.7854 Liters
Time of last calibration			Well Pur	ge Volume:		Ī		1			ı	
Time of	Vol. **	Temp	pН	Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comm	nents (e.g., color, odor)
Measurement 150	Purged -	°C 16.57	5.94	(mMhos/cm) 0.417	mg/L 25.5	(mg/L) 1.49	(eV) 213.9	(mg/L)	(mg/L)	(mg/L)		clear no odor
									_			
155	5 min	16.8	5.68	0.419	17.2	0.57	232	-	-	-		clear no odor
200	5 min	17.04	5.63	0.422	21.7	0.81	240.8	-	-	-		clear no odor
205	5 min	16.84	5.58	0.462	14.5	0.8	245.2	-	-	-		clear no odor
210	5 min	16.99	5.55	0.555	11.2	0.73	244.3	-	-	-		
215		17.08	5.56	0.587	9.88	1.78	238.4	-	-	-		
	1 gal	Total Purge	Volume		**Individua	l volumes	, not cumulativ	e, in gallons				
					WE	LL SAN	IPLING					
DTW					1419 collect	ted WFBI	at MW8 location	ı				
8.41 @ 149	-							-	Com	olo Doto:	4/45/44	
8.42 @ 155	-								Sam	pie Date.	4/15/14	
	-											
8.42 @ 200	-											
8.43 @ 205	pump turned of	down slightly										Start: 215
8.42 @ 210									Samp	ole Time:	222	Finish: -
Approx Pump D	epth: 14 feet be	gs							Ind	licate Start/Fir	nish times only	if sample times are greater than 15 minutes.
Contro	ol No.	Volume/C	Cont.	Analysis Reques	sted		Preserv.	Sampl	e Location ID	)	QC?	Comments
MV	V8	2 1-liter a	amber	SW 846 8270D			4°C		-		-	-
MV	V8	3-40ml gla with Teflor		EPA 504.1			4°C, Na2S203	3	-		-	-
MV	V8	2-40ml gla with Teflor		SW846 8260C			4°C, HCI		-		-	-
MV	V8	2-500 ml g log		TAL 6020A HG 7040	)A / 7041A N	Metals	4°C, HN03		-		-	-
	QUALITY COI	NTROL SAM	PLES					Additional of	comments:	Top of Ris	ser: 31.5	
TYPE		SAMPLI	E ID		C-of-C		1		:	Top of pro	otective ca	sing: 2.95
Ambient Blank				AB			1			North ma	rked yes	
Duplicate				FD								-
Equipment Blank				EB		=						<del></del>
Trip Blank				ТВ		-	Re	ecorded by:	Susan Wald	en		
	-		•				<u> </u>				-	

Gregg County Re	efinery									We	ell Num	ber: MW-9	
Well Type:													
Well Material: PVC			Integrity:	New (stick up)									-
Well casing mor				39" from concrete ris	ser, 46.5" fro	m GL to F	Riser, 43" from o	concrete to	TOC (protect	ctive)			-
Weather:	overcast/cool				-								
	little wind				-		Sampled By:	VanDyke 8	k Arthur				
					W	ELL PU	IRGING						
PURGE DATE:	4/17/14		WA	TER DEPTH/TD:	(ft. BTOC):	3.8'	23.5'		Date:	4/17/14		Time: 830	
					•		well volume =	3.2 gal	-			<del></del>	
Purge Time												2" sched. 40 = .163 g 2" sched 40 = .617 L	al./ft.
Start	835											3/8" OD Tubing = .028 n	
Stop	1025											1/4" OD Tubing = .015 n	
Total elapsed	120	minutes										1 Gallon = 3.7854	4 Liters
		ARAMET	_	SUREMENT			]						
Time of last calibrati	on:	Tomp	Well Pur	ge Volume: Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comp	nents (e.g., color, odor)	DTW
Measurement	Purged	Temp °C	рп	(mMhos/cm)	mg/L	(mg/L)	(eV)	re (mg/L)	(mg/L)	(mg/L)	Comm	ienis (e.g., coloi, odoi)	DIW
0835	,0.1			,	-	, ,				, , ,	Increa	sed purge rate at 0840	3.95
0845	0.5	16	5.38	0.166	72.5	0.71	69.7					v. slight odor	4.70
0850	0.5	16.07	5.38	0.173	52.3	0.56	64.6				no c	odor (decreased rate)	4.76
0855	0.25	16.11	5.32	0.175	49.8	0.49	66.1					no odor	4.8
0900	0.25	16.17	5.44	0.187	43.1	0.42	54.7					no odor	4.85
0905	0.25	16.19	5.4	0.2	38.1	0.35	59.2					no odor	4.90
0910	0.25	16.23	5.41	0.206	32.0	0.35	56.5					no odor	4.95
0915	3.2	16.2	5.53	0.224	27.3	0.31	46.5					no odor	4.95
0920	8.0	16.24	5.5	0.229	23.4	0.31	46.5					no odor	4.95
0925	0.35	16.28	5.53	0.233	23.2	0.29	45.9					no odor	5.00
0930	0.35	16.28	5.59	0.251	23.0	0.28	45.9					no odor	5.00
1025	STOP PURGE	Total Purge	Volume	= 3.2 gal + 3 sample	Vol.								
	3.2 gal	Total Purge	Volume		**Individual	volumes,	, not cumulative	, in gallons					
					WE	LL SA	MPLING						
Approx Pump D	epth: 12 feet bg:	S						1					
	1								Sam	nple Date:	4/17/14		_
	1026	DTW 4.91										Start: 0940	_
									Sam	ple Time:	0940	Finish: 1025	
										-		lly if sample times are greater than 1	15 minutes.
Control No.		\/aluma//	Cont	Anglysis Regues	stad		Droops	Compl	e Location II				
Control No. MW-9		Volume/0		Analysis Reques SW 846 8270D	stea		Preserv. 4°C	Sampi	MW-9	J	QC?	Comments -	
MW-9		2-40ml gla with Teflo		EPA 504.1			4°C, Na2S203		MW-9		Х	-	
MW-9		3-40ml gla	ass vials	SW846 8260C			4°C, HCI		MW-9		Х	-	
MW-9		2-500 ml g	glass or	TAL 6020A Hg 7040	A/7041A		4°C, HN03		MW-9		Х	-	
		DOI	V										
							1						
	QUALITY CON	ITROL SAM	IPLES				_	Additional of	comments:				
TYPE		SAMPL	E ID		C-of-C								
Ambient Blank				AB									
Duplicate	-			FD									
Equipment Blank				EB			D.	corded by	James Van	Dvke			
Trip Blank				TB			146		-u00 vali				

Gregg County Re	finery									W	ell Num	ber:	MW-10	
Well Type:														
Well Material: PVC		Well In	ntegrity:	Surface mount	2'x2' concret	e pad								
Well casing mor	nitoring readings:													
Weather:	Party cloudy/sunn	у												
	Little wind from SE	<b>=</b>			_		Sampled By:	VanDyke 8	k Arthur					
					WEI	LL PUR	GING							
DUDGE DATE:			10/0	TED DEDTU/TO		4.23								
PURGE DATE:	4/17/14	<del></del>	WA	TER DEPTH/TD:	(ft. BTOC):		20.22		Date:	4/16/14		Time:	1512	
Stop	1527 1645 78	minutes										2" scl 2" sc 3/8" OD 1/4" OD	nversion Factors hed. 40 = .163 ga shed 40 = .617 Lite Tubing = .028 ml Tubing = .015 ml Gallon = 3.7854	ers/ft. /ft. /ft.
Time of lost calibrati				UREMENT										
Time of last calibrate Time of	on:4/17/2014 Vol. **	Temp	pH	ge Volume: Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comm	nents (e.a	, color, odor)	DTW
Measurement	Purged	°C	Pii	(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)	0011111	iorito (o.g.	, 00.01, 0001)	5
1527	<0.1	-	-	-	-	-	-	-	-	-	Odor pre	sent (swe	et gas like odor)	4.25
1537	0.4	17.14	7.69	1.113	62.1	0.84	-29.9	-	-	-	in	creased p	urge rate	4.51
1542	0.3	16.92	7.59	1.12	37.9	0.65	-27.9	-	-	-		no od	lor	4.52
1547	0.3	16.6	7.47	1.119	29.7	0.51	-24.1	-	-	-		no od	lor	4.57
1552	0.3	16.34	7.46	1.11	23.5	0.55	-19.6	-	-	-	od	dor presen	t (strong)	4.57
1557	0.3	16.75	7.35	1.085	18.5	0.57	-12.6	-	-	-		no od	lor	4.62
1602	0.3	16.78	7.34	1.07	18.7	0.59	-12.6	-	-	-		oder pr	esnt	4.62
1607	0.3	16.76	7.31	1.072	15.1	0.57	-12.3	-	-	-	slight	sheen or	purgenater	4.62
1615	0.3	16.83	7.29	1.078	24.26	0.52	-14.7	-	-	-		odor pre	esent	4.63
1617	slowed purge rate		I											
1628	sped (increased)	purge rate												
	2.5	Total Purge	Volume		**Individua	l volumes	, not cumulativ	e in gallon	\$					
							,	-, g	-					
					WELL	L SAMF	OI INC							
Approx Pump D	epth: 12 feet bgs				WELI	L SAIVIT	LING							
Approx Pump D	epin: 12 feet bgs													_
									Sam	ple Date:	4/16/14			
													Start: 1617	
									Sam	ple Time:	1617		Finish: 1645	
									Inc	dicate Start/Fir	nish times only	if sample tim	es are greater than 15 m	inutes.
Control No.		Volume/0	Cont.	Analysis Reque	sted		Preserv.	Sampl	e Location II	)	QC?		Comments	
MW10		2 1-liter a		SW 846 8270D			4°C		-		-		-	
MW10		3-40ml gla with Teflo		EPA 504.1			4°C, Na2S203	3	-		-		-	
MW10		2-40ml gla with Teflo		SW846 8260C			4°C, HCI		-		-		-	
MW10		2-500 ml (	glass or	TAL 6020A Hg 704	0A/7041A		4°C, HN03		-		-		-	
												<del>                                     </del>		
	QUALITY CONTR	OL SAMPLI	ES					Additional c	comments:					
TYPE		SAMPL	E ID		C-of-C									
Ambient Blank				AB										
Duplicate				FD										
Equipment Blank				EB										
Trip Blank				ТВ			Re	ecorded by:	James Van	Dyke				

Gregg County Ro	efinery									W	ell Num	nber: MW-11	
Well Type: Well Material: PVC		Well	Integrity:	New (stick up)_									
Well casing mo	nitoring reading		integrity.	TC to Concrete:	44". Inner TO	C to GL: 5	52". GL to Riser	:47"					=
Weather:		_		10 to concrete.	,	J 10 OL. 0	, 02 10 111001						_
	S wind @ 5-10	) mph			-		Sampled By:	VanDyke a	nd Arthur				
					W	ELL PU	RGING						
DUD OF DATE			10/4	TED DEDTUTE					_				
PURGE DATE:	4/17/14	<del></del>	WA	TER DEPTH/TD:	(ft. BTOC):	3.66	23.45		Date:	4/17/14		Time: 1130	
												Conversion Factor	
Purge Time												2" sched. 40 = .163 g 2" sched 40 = .617 L	
	1135											3/8" OD Tubing = .028 m	
Stop Total elapsed	1255	minutos										1/4" OD Tubing = .015 m 1 Gallon = 3.7854	
rotal elapsed	60	minutes										1 Gallott = 3.7654	+ Liters
			_	ASUREMENT									
Time of last calibrati	ion:4/17/20 Vol. **	714 Temp	_ Well Pui pH	rge Volume:2.4_ Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Com	ments (e.g., color, odor)	DTW
Measurement	Purged	°C	ı'	(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)			
1136	<0.1	-	-	-	-	-	-	-	-	-		Clear - no odor	8.72
1146	0.5	16.29	5.58	0.185	18.3	3.24	80.9	-	-	-		Clear - no odor	8.80
1151	0.25	16.29	5.5	0.183	17.3	2.99	81.1	-	-	_		Clear - no odor	8.81
1156	0.25	16.2	5.46	0.18	20.6	2.96	81	-	-	-		Clear - no odor	8.81
1201	0.25	16.2	5.42	0.18	20.8	2.74	82.3	-	•	-		Clear - no odor	8.81
1206	0.25	16.25	5.43	0.186	20.3	2.69	78.8	-	-	-		Clear - no odor	8.81
1211	0.25	16.35	5.43	0.194	19.7	2.66	77.1	-	-	-		Clear - no odor	8.82
1216	2.5	16.38	5.42	0.191	20.3	2.48	79	-	-	-		Clear - no odor	8.82
1221	0.25	16.44	5.41	0.19	20.3	2.68	78.3	-	i	-		Clear - no odor	8.82
1226	0.25	16.49	5.4	0.193	15.0	2.48	80	-	-	-		Clear - no odor	8.82
1231	0.25	16.55	5.4	0.194	13.7	2.57	80	_	_	_		Clear - no odor	8.82
1231	0.23	10.55	5.4	0.134	15.7	2.51	00	_	-	_		Olcai 110 0doi	0.02
	5	Total Purge	e Volume		**Individual	volumes,	, not cumulative	, in gallons					
					WF	II SAI	MPLING						
Stop purgo @ 1	255												
Stop purge @ 1								ı					_
DTW 8.75' @	1256								Sam	ple Date:	4/17/14	ı	_
Approx Pump D	epth: 12 feet bg	ıs										Start: 1232	<u>.</u>
									Sam	ple Time:	12.32	Finish: 1255	
										-		nly if sample times are greater than 19	5 minutes.
Control No.		\/=l	04	Analysis Danies			D	CI					
Control No. MW-11		Volume/ 2 1-liter		Analysis Reques SW 846 8270D	iea		Preserv. 4°C	Sampi	e Location II MW-11	,	QC?	Comments	
MW-11		3-40ml gla	ass vials	EPA 504.1			4°C, Na2S203		MW-11		X	_	
10100-11		with Teflo 2-40ml gla		LF A 304.1			4 C, Na23203		10100-11		^		
MW-11		with Teflo	on septa	SW846 8260C			4°C, HCI		MW-11		Х	-	
MW-11		2-500 ml log		TAL 6020A Hg 7040	A/7041A		4°C, HN03		MW-11		Х	-	
							]						
	QUALITY CON	ITROI SAL	NDI ES					Additional o	ommente:				
TVDE	QUALII T COI				0 % 0		1	Additional C	omments:				
TYPE		SAMPL	ב וט		C-of-C		1						
Ambient Blank				AB									
Duplicate				-FD									
Equipment Blank				EB									
Trip Blank				ТВ					James Van				

Gregg County Re	finery				Arrived '	1544				W	ell Num	ber:	MW-1	2	
Well Type:	MW														_
Well Material: PVC	2"	Well In	ntegrity:	New install, new page	d										
Well casing mor	nitoring reading	ıs: PII	D reading	s; breathing zone 0.0	) ppm; well h	ead 0.1 p	pm, ground 0.0	) ppm							
	sunny, 60 deg					· ·		•••							
77 04.1011	wind	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			_		Sampled By:	Walden & I	Konvalin						
	Willia				=			waiden a i	TOITVAIII						
					WI	ELL PU	RGING								
PURGE DATE:	4/15/14	·	WA	TER DEPTH/TD:	(ft. BTOC)	4.975	23.6		Date:	4/15/14		Time:	1600		
Purge Time Start Stop Total elapsed	1604 1625	delay due to minutes		3.04 gal								2" so 2" s 3/8" OE 1/4" OE	ched. 40 = ched	.163 gal./ft .617 Liters .028 ml./ft. .015 ml./ft.	/ft.
		PARAMETE		SUREMENT											
Time of last calibration	on: Vol. **	Tomp		ř .	3.04 Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comp	nante (a c	J., color, ode	or)	
Measurement	Purged	Temp °C	pН	Cond. (ATC) (mMhos/cm)	mg/L	(mg/L)	(eV)	re (mg/L)	(mg/L)	(mg/L)	Conni	ierita (e.g	j., color, ou	51)	
1604	-	16.43	4.8	0.447	3.07	1.92	221.3	-	-	-					
1611	-	16.75	4.27	0.461	4.78	0.77	259.1	-	-	-					
1616	_	16.54	4.27	0.463	3.36	0.72	258.4	-	-						
1621	_	16.44	4.2	0.465	2.34	0.66	254.9	_	_						
1021	_	10.44	4.2	0.100	2.54	0.00	254.5								
	66 and	Total Durge	Valuma		**Individuo	Lualumaa	not oumulativ	in gallana							
	.66 gal	Total Purge	volume		individua	volumes	, not cumulative	e, in gailons							
					WE	LL SAN	MPLING								
DTW															
5.47 @ 1606	-														
5.41 @ 1615									Sam	ple Date:	4/15/14				
5.39 @ 1619	-												_		
5.3 @ 1625	_												Start:	1625	
5.1 @ 1713 final									Sam	ple Time:	1604		Finish:	1625	
Approx Pump D	enth: 15 feet h	ae.							In	ndicate Start/F	inish times onl	y if sample ti	mes are greater	than 15 minu	ites.
Control No.	opan. To loca b	Volume/C	`ont	Analysis Bagus	otod		Droom	Compl	e Location ID		QC?		Comme	anto	
MW12		2 1-liter a		Analysis Reques	sieu		Preserv. 4°C	Sampi	e Location iL	,	QC?		Comme	ents	
MW12		3-40ml gla	ss vials	EPA 504.1			4°C, Na2S203		-		-		-		
MW12		2-40ml gla with Teflor	ss vials	SW846 8260C			4°C, HCI		-		-		-		
MW12		2-500 mi g	lass or	TAL 6020A Hg 7040	A/ 7041A M	etals	4°C, HN03		-		-		-		
	QUALITY CO	NTROL SAM	IPI ES					Additional c	comments:						
TYPE		SAMPL			C-of-C		]								
Ambient Blank				AB			-								_
Duplicate				FD				-							_
Equipment Blank				EB											
Trip Blank				TB	-		Re	ecorded by:	Susan Wald	len					
				<del>-</del>											_

Gregg County Re	efinery									W	ell Num	ber: MW-13	
Well Type:													
Well Material: PVC		Well I	ntegrity:	New									=
Well casing mor	nitoring readings	s:											=
Weather:	Mostly cloudy				_								
	(in shade) sout	th wind			=		Sampled By:	JV & LA					
					WI	ELL PU	RGING						
PURGE DATE:	4/16/14		WΔ.	TER DEPTH/TD	(ft BTOC):	4.23	23.18		Date:	4/16/14		Time: 1245	
ONOL DATE.	4/10/14		•••		(II. B100).	4.20	20.10		- Dutc.	4/10/14		1240	
Purge Time Start Stop Total elapsed	1402	minutes										Conversion Factor 2" sched. 40 = .163 (2" sched. 40 = .617 I 3/8" OD Tubing = .028 r 1/4" OD Tubing = .015 r 1 Gallon = 3.785	gal./ft. _iters/ft. nl./ft. nl./ft.
		ARAMET	-	SUREMENT									
Time of last calibration	on:4/16/2014 Vol. **	Temp	Well Pur pH	ge Volume:3 Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comm	ents (e.g., color, odor)	DTW
Measurement	Purged	°C	рп	(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)	Comm	erits (e.g., color, odor)	Diw
1300	<0.1	-	-	-	-	-	-	-	-	-		No Odor	4.21
1310	0.4	17.94	7.12	0.479	13.3	0.8	-15.4	-	-	-		Clear - no odor	4.50
1315	0.4	18.01	7.04	0.48	10.0	0.63	-12	-	_	_		Clear - no odor	4.50
1320	0.4	17.98	6.92	0.481	8.62	0.48	0	-	_	_		Clear - no odor	4.50
1325	0.4	18.08	6.89	0.479	8.38	0.4	4	_	_	_		Clear - no odor	4.52
1330	0.4	18.04	6.94	0.479	6.12	0.35	-1.1	_	_	-		Clear - no odor	4.52
1330	0.4	10.04	0.94	0.475	0.12	0.33	-1.1	-	-	-		Oldar 110 odor	4.52
											DT	W after stop purge	4.52
	2.0 gal	Total Purge	Volume	I	**Individua	l volumes	, not cumulative	e, in gallons					
		_						-					
					WE	11 8/1	//PLING						
01	055				***	LL JAI	III LING						
Stop purge @ 1									<u> </u>				_
DTW 8.75' @	1256								Sam	ple Date:	4/16/14		-
Approx Pump D	epth: 15 feet bg	js										Start: 1335	_
									Sam	ple Time:	1335	Finish: 1400	
									In	dicate Start/Fin	nish times only	if sample times are greater than 15	minutes.
Control No.		Volume/0	Cont.	Analysis Reque	sted		Preserv.	Sampl	e Location ID	)	QC?	Comments	
		2 1-liter		SW 846 8270D			4°C						
		2-40ml gla with Teflo		EPA 504.1			4°C, Na2S203	3					
		3-40ml gla	n septa	SW8015B (TPH-DR	(O)		4°C, HCI						
		2-500 ml loa		TAL Mercury/Metals	1		4°C, HN03						
	QUALITY CON	NTROL SAM	IPLES					Additional of	comments:	Well volur	ne = 3.08	gal	
TYPE		SAMPL			C-of-C		1			TC to cond		-	
Ambient Blank				AB			1			Inner TC to			
Duplicate				FD.	-	-				GL to rise			
Equipment Blank				EB		5							
Trip Blank				TB			R	ecorded by:	James Van	Dyke			
:				=: 		-							-

Gregg County Re	efinery									W	ell Numb	per: MW-14	
Well Type:													
Well Material: PVC			ntegrity:	New well									_
Well casing mo		_											_
weather:	Sunny/Partly				_		Compled Du	11/014					
	Slight wind ou	at or south			_		Sampled By:	JV & LA					
					W	ELL PU	RGING						
PURGE DATE:	4/16/14		WA	TER DEPTH/TO	C: (ft. BTOC)	3.66	23.45		Date:	4/16/14	7	Fime: 1130	
Purge Time Start Stop Total elapsed	1040 1143 63	- minutes		43" from 44" from	GL to TOC (in concrete to T		ive casing					Conversion Factor 2" sched. 40 = .163 g 2" sched 40 = .617 Li 3/8" OD Tubing = .028 m 1/4" OD Tubing = .015 m 1 Gallon = 3.7854	al./ft. iters/ft. nl./ft. nl./ft.
Time of last calibrat		PARAMET   6/2014	_	ASUREMENT rge Volume:									
Time of	Vol. **	Temp	pH	Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Comm	ents (e.g., color, odor)	DTW
Measurement	Purged	°C		(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)			
1040	<0.1	-	-	-	-	-	-	-	-	-	SI	art purge/no odor	8.59
1050	0.3	18.8	7.21	1.127	20.3	0.71	-7.1	-	-	-		clear/no odor	8.70
1055	0.3	18.77	7.21	1.126	10.0	0.52	-9.6	-	-	-		clear/no odor	8.71
1100	0.3	18.83	7.18	1.127	9.26	0.4	-4.9	-	-	-		clear/no odor	8.72
1105	0.3	18.85	7.16	1.127	8.34	0.35	-3.1	_	_	-		clear/no odor	8.74
1110	0.4	18.93	7.15	1.128	6.73	0.32	-2.7	-	-	-		clear/no odor	8.74
1115	0.4	18.93	7.16	1.127	6.47	0.29	-1.7	-	-	-		clear/no odor	8.76
			1										
	2.0	Total Purge	e Volume		**Individua	l volumes	, not cumulativ	e, in gallons	3				
	L	1											
					WF	LL SAI	MPLING						
DTW time of sa	ample 8.76								Sam	ple Date:	4/16/14		_
Approx Pump D	Depth: 11 feet b	ogs										Start: 1120	_
									Sam	ple Time:	1120	Finish: 1142	
										Indicate Start/	Finish times on	ly if sample times are greater than 15	5 minutes.
Control No.		Volume/	Cont.	Analysis Requ	ested		Preserv.	Sampl	le Location I	D	QC?	Comments	
MW	/14	2 1-liter		SW 846 8270D			4°C		-		-	-	
MW	/14	2-40ml gla with Teflo		EPA 504.1			4°C, Na2S203		-		-	-	
MW	/14	3-40ml gla with Teflo	ass vials	SW846 8260C			4°C, HCI		-		-	-	
MW	/14	2-500 ml	glass or	TAL 6020A HG 70	040A / 7041A I	Metals	4°C, HN03		-		-	-	
		loq	V										
	QUALITY CO							Additional co	omments:				
TYPE		SAMPL	E ID		C-of-C								
Ambient Blank				AB									
Duplicate				FD									
Equipment Blank				EB			_						
Trip Blank				ТВ			Re	ecorded by:	James Van	руке			

Gregg County Re	efinery			Arrival Tim	e:					We	ell Numb	oer:	MW-15	
Well Type:														
Well Material: PVC		Well I	ntegrity:	Flushmount										
Well casing mo	nitoring read	dings:												
Weather:	Overcast,	54 degrees												
							Sampled By:	LK/PK						
					,	WELL P	URGING							
PURGE DATE:	4/17/2014		WATE	R DEPTH/TD:	(ft BTOC)	2'7 5"	18'	1.75"	Date:	41746	,	Гіте:	913	
I ONGE DATE.	4/17/2014		WAIL	IN DEI III/ID.	(II. BTOC)	27.5,	10	1.73	Date.	41740			913	
													version Fact	
Purge Time				breating a	zone: 0 1								ed. 40 = .163 ned 40 = .617	-
Start	918			wellhead									Fubing = .028	
•	936	<del>-</del> -		ground:	0.4								Tubing = .015	
Total elapsed	20	minutes									L	1	Gallon = 3.78	54 Liters
	FIELD	PARAMET	ER ME	ASUREMENT										
Time of last calibrat			r	ge Volume:			000	- 24	0.11.1	A 17. 12	1 .	•	, .	
Time of Measurement	Vol. ** Purged	Temp °C	pН	Cond. (ATC) (mMhos/cm)	Turbidity mg/L	D. O. (mg/L)	ORP (eV)	Fe <sup>2+</sup> (mg/L)	Sulfate (mg/L)	Nitrite (mg/L)	· '	Comments	(e.g., color, c	odor)
920	- urgea	18.27	5.22	0.576			128.5	(mg/L)	- (1119/12)	(mg/L)			_	
					6.56	3.5								
925	-	18.36	5.51	0.691	7.01	2.89	111.1	-	-	-			-	
930	-	18.5	5.6	0.698	7	2.73	107.2	-	-	-			-	
935	-	18.52	5.64	0.708	7.9	2.65	106.2	-	-	-			-	
		T D	., .											
	1 gal	Total Purge	volume		Individua	i voiumes,	not cumulative	e, in gallons						
					W	ELL S	AMPLING							
3'2.25" @ 0923								_						
4'1.25" @093	7 - pump r	ate reduce	d						Sam	nle Date	4/17/2014	1		
45.0 400									ou	pio Bato.	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		o	
4'5" @ 1007													Start: 94	40
Approx Pump D	epth: 11 fee	et bgs							Sam	ple Time:	940	F	inish: 100	06
									Indi	icate Start/Fin	ish times only	if sample time	es are greater than	15 minutes.
Control No.		Volume/0	Cont.	Analysis Reque	ested		Preserv.	Sample	e Location II	D	QC?		Comments	
MW-15	i	2 1-liter		SW 846 8270D			4°C		-		-		-	
MW-15	i	3-40ml gla with Teflo	ss vials n septa	EPA 504.1			4°C, Na2S203	3	-		-		-	
MW-15	<u> </u>	2-40ml gla	ss vials	SW846 8260C			4°C, HCI		-		_		_	
MW-15		with Teflo		TAL 6020A HG 70-	40A / 7041	Δ Motals	4°C, HN03		-		_			
10100-13	•	- 550 mi gla	.50 or por	00207 110 70	.51.110411	. moidis	- J, HNO3				-		<u> </u>	
	QUALITY	CONTROL S	SAMPLES	;				Additional c	omments:					
TYPE		SAMPL	E ID		C-of-C									
Ambient Blank				AB										
Duplicate				FD		-								
Equipment Blank				EB		-								<del></del>
Trip Blank				ТВ			Re	ecorded by:	lauren konv	/alin				
				•		-		-						

Gregg County Re	efinery			Arrival Tim	e: 1020					We	ell Numl	oer: N	/IW-16		
Well Type:															
Well Material: PVC		Well I	ntegrity:	New Well, Stic	k up										
Well casing mor	nitoring read	dings:		Breathing zone	e: 0 ppm, w	ellhead: 10	0.4 ppm, ground	d: 0.1 ppm							
Weather:	Overcast,	54 degrees													
							Sampled By:	Lauren Kor	nvalin						
					V	WELL P	JRGING								
PURGE DATE:	4/16/2014		WATE	ER DEPTH/TD:	(ft BTOC)	7.25	12.125		Date:	4/16/2014	<sub>1</sub> .	<b>Гіте</b> : 1	030		
I ONGE DATE.	4/10/2014		WAIL	-IX DEI 111/1D.	(II. BTOC)	1.23	12.123		Date.	4/10/2014			030_		
													rsion Factors		
Purge Time													d. 40 = .163 gal./ft. d 40 = .617 Liters/ft.		
Start	1038	_											bing = .028 ml./ft.		
Stop	1057	-											bing = .015 ml./ft.		
Total elapsed	19	minutes									Į	1 G	allon = 3.7854 Liters		
			_	ASUREMENT											
Time of last calibrati Time of	ion:4/16 Vol. **	5/2014 Temp	_ Well Pur pH	ge Volume: Cond. (ATC)	2.59 Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite		Commonts (c	e.g., color, odor)		
Measurement	Purged	°C	pri	(mMhos/cm)	mg/L	(mg/L)	(eV)	re (mg/L)	(mg/L)	(mg/L)		Johnneins (e	e.g., color, odor)		
1040	-	17.97	6.64	0.405	0.87	2.61	-33.2	-	-	-			-		
1045	_	17.63	6.33	0.402	1.85	0.55	-42.9	-	-	_			-		
1050	-	17.75	6.33	0.399	1.43	0.55	-38	-	-	-			-		
1055	_	17.68	6.32	0.395	0.97	0.52	-38.1	-	_				_		
1033		17.00	0.32	0.393	0.97	0.32	-30.1	-	_						
	43 gal	Total Purge	e Volume		**Individua	l volumes	not cumulative	e, in gallons			ļ.				
		J													
					W	FII SA	MPLING								
DTM	D	d	( \ (O A  -	I EDDI-	•	LLL OF	uvii Liivo								
DTW		decreased							1						
8.2 @ 1045	Pump rate	returned to	initial for S	SVOC's and Metals					Sam	ple Date:	4/16/201	4			
8.175 @1053												s	tart: ####		
8.025 @ 1130 final									Sam	ple Time:	1101	Fin	nish: ####		
													e greater than 15 minutes.		
Approx Pump D	epin: 15 iee	-	01	Azabaia Dani			D	0							
Control No. MW-16		Volume/ 2 1-liter		Analysis Requi	estea		Preserv. 4°C	Sampi	e Location II	D .	QC?		Comments		
MW-16		3-40ml gla	ass vials	EPA 504.1			4°C, Na2S203		-		_				
		with Teflo 2-40ml gla													
MW-16		with Teflo	n septa	SW846 8260C	404 / 7044	A Matala	4°C, HCI 4°C, HN03		-		-		-		
MW-16		2-500 mi gia	ass or por	TAL 6020A HG 70	40A / 704 I	Aivietais	4°C, HN03		-		-		-		
											l I				
	QUALITY	CONTROL	SAMPLES	3			,	Additional c	comments:						
TYPE		SAMPL	E ID		C-of-C										
Ambient Blank				AB		=									
Duplicate				FD		-									
Equipment Blank				ЕВ		-									
Trip Blank				TB		-	Re	ecorded by:	Konvalin						

Gregg County Re	finery			Arrival Time	e: 0802		Well Number: MW-17							
Well Type:														
Well Material: PVC		Well I	ntegrity:											
Well casing monitoring readings: Breathing zone: 0 ppm, wellhead: 1.6 ppm, ground: 0 ppm														
Weather: sunny, 45 degrees														
	slight bree:	ze		Sampled By: Lauren Konvalin										
WELL PURGING														
PURGE DATE:	4/16/2014	WATER DEPTH/TD: (ft. BTOC): 7.675					23.3 ft D			4/16/201	4	Time: 810		
									Conversion Factors					
										2" sched. 40 = .163 gal./ft.				
Purge Time Start	0.44											2" sched 40 = .617 Liters/ft. 3/8" OD Tubing = .028 ml./ft.		
	919	-					-					1/4" OD Tubing = .015 ml./ft.		
	38	minutes										1 Gallon = 3.7854 Liters		
FIELD PARAMETER MEASUREMENT														
Time of last calibration:4/16/2014 Well Purge Volume:														
Time of	Vol. **	Temp	рН	Cond. (ATC)	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	(	Comments (e.g., color, odor)		
Measurement	Purged	°C		(mMhos/cm)	mg/L	(mg/L)	(eV)	(mg/L)	(mg/L)	(mg/L)				
841	-	16.3	6.52	0.776	2.03	1.06	-27.2	-	-	-		-		
848	-	16.41	6.47	0.789	1.17	0.93	-41.6	-	-	-		-		
853	-	16.65	6.45	0.782	0.84	0.67	-48.3	-	-	-		-		
858	-	16.52	6.44	0.787	1.25	0.7	-59.3	-	-	-		-		
903	-	16.61	6.42	0.805	0.7	1.06	-66.7	-	-	-		-		
908	-	16.62	6.38	0.813	0.66	0.75	-66.8	-	-	-		-		
913	-	16.73	6.38	0.813	0.77	0.73	-65.7	-	-	-		-		
	1 gal	Total Purge	\/olume		**Individus	l volumos	, not cumulative	in gallone						
	i gai	Total Luige	Volume		individue	ii voluities,	, not cumulative	s, iii gailoiis	•					
WELL SAMPLING														
DTW	Pump rate	decreased	for VOA's	and EDB's										
7.67 @ 0831 Pump rate returned to initial for SVOC's and Metals									Sample Date: 4/16/2014					
8.19 @ 0855											Start: 920			
							Comple Time							
8.25 @ 1130 final										ple Time:	920			
8.325 @ 0907									Ind	icate Start/Fini	sh times only	if sample times are greater than 15 minutes.		
8.34 @ 0953	final	Approx Pur	mp Depth	: 15 feet bgs										
Control No.		Volume/0	Cont.	Analysis Requ	ested		Preserv.	Sample	e Location II	D	QC?	Comments		
MW-17		2 1-liter		SW 846 8270D			4°C		-		-	-		
MW-17		3-40ml gla with Teflo		EPA 504.1			4°C, Na2S203		-		-	-		
MW-17		2-40ml gla	nl glass vials Teflon septa			4°C, HCI -			-	-				
MW-17	2-500 ml gla	lass or polyTAL 6020A HG 7040A / 7041A Metals				4°C, HN03 -			-	-				
QUALITY CONTROL SAMPLES Additional comments:														
TYPE SAMPLE ID C-of-C								ruulional o	omments.					
Ambient Blank		2,		AB										
Duplicate				FD		-								
Equipment Blank EB							-							
Trip Blank TB							Recorded by: Konvalin							
прынк пр														

Gregg County Re	efinery									W	ell Num	ber: MW-18		
Well Type:														
Well Material: PVC		Well In	ntegrity:	New install new page	d completion	inspection	1							
Well casing monitoring readings: PID readings; breathing zone 0.0 ppm; well head 0.1 ppm, ground 0.0 ppm														
Weather: 46 degrees, sunny														
	wind 2 mph				<del>-</del> -		Sampled By:	Kieler & Ko	nvalin					
WELL PURGING														
DUDGE DATE:			10/0	TED DEDTILED	- //: 5=50									
PURGE DATE:	4/15/14	<u> </u>	WA	TER DEPTH/TD	: (ft. BTOC):	6.45"	23.3		Date:	4/15/14		Time: 944		
				purge vol	ume: 2.74 ga	I						Conversion Factors		
			e: 300nw/min						2" sched. 40 = .163 gal./f	ft.				
Purge Time											2" sched 40 = .617 Liters			
Start Stop	951 1148	_delay due to	pump ra	ate								3/8" OD Tubing = .028 ml./ft 1/4" OD Tubing = .015 ml./ft		
Total elapsed		- minutes										1 Gallon = 3.7854 Lit		
		-												
FIELD PARAMETER MEASUREMENT														
Time of last calibrati	ion: Vol. **	Tomp		ge Volume:	Turbidity	D. O.	ORP	Fe <sup>2+</sup>	Sulfate	Nitrite	Com	ments (e.g., color, odor)		
Measurement	Purged	Temp °C	pН	Cond. (ATC) (mMhos/cm)	Turbidity mg/L	(mg/L)	(eV)	re (mg/L)	(mg/L)	(mg/L)	Com	ments (e.g., color, odor)		
10.23	1.2	17.9	4.94	1.634	2.5	1.04	154.3	(···g·=/	(···g·=/	(9-=/		clear no odor		
10.45	0.7	18.35	5	1.632	1.83	1.08	167.1					clear no odor		
10.49	0.7	18.46	5.01	1.632	1.60	1.06	167.9					clear no odor		
10.52	2.2	18.42	5.01	1.633	2.09	1.05	170.2					clear no odor		
	3	Total Purge	Volume				, not cumulative	e, in gallons						
					WE	ELL SA	MPLING							
DTW		poly in well VOC flowthrough -wate												
7.23 @ 1010	=	silicon to pu	imo	EDB	from tube	-	Sam	ple Date:	4/15/14	4/15/14				
7.59 @ 1101	_			SVOC					Start: 1150					
7.68 @ 1220 final	_			metals					Sam	ple Time:	1150	Finish: 1220		
Approx Pump D	epth: 15 feet b	igs								Indicate Start	/Finish times of	only if sample times are greater than 15 m	ninutes.	
Control No.		Volume/C	Cont.	Analysis Reque	ested		Preserv.	Sample	E Location II	)	QC?	Comments		
MW18		2 1-liter a	amber	SW 846 8270D			4°C		-		-	-		
MW18		3-40ml gla with Teflor		EPA 504.1			4°C, Na2S203	°C, Na2S203 -			-			
MW18		2-40ml glass vials with Teflon septa		SW846 8260C			4°C, HCI -				-	-		
MW18	2-500 mi diass or		glass or	TAL 6020C Hg 7040A /7041A Metals			4°C, HN03 -				-	-		
		DOIN												
QUALITY CONTROL SAMPLES  TYPE SAMPLE ID C-of-C								Additional c	omments:					
		CAIVII- LI		AD	J 01-0		1							
Ambient Blank				AB		-								
Duplicate				_FD _EB		-								
Equipment Blank		-	_											
Trip Blank	p BlankTB							Recorded by: Konvalin						